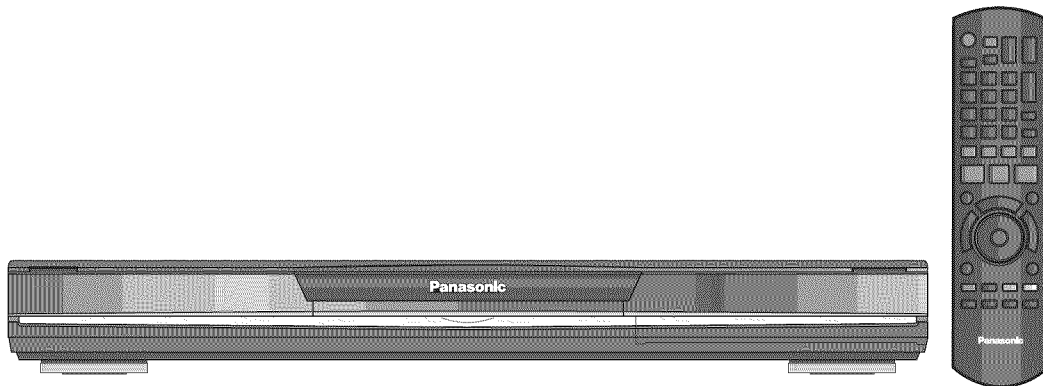# Panasonic®

Operating Instructions

Blu-ray Disc Player

Model No. **DMP-BD80**
DMP-BD60
DMP-BD601
DMP-BD605

The illustration shows the image of DMP-BD80.

Dear customer

Thank you for purchasing this product.
For optimum performance and safety, please read these instructions carefully.
Before connecting, operating or adjusting this product, please read the instructions completely. Please keep this manual for future reference.
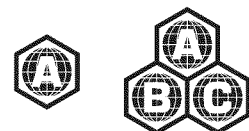
Region management information	
BD-Video This unit plays BD-Video marked with labels containing the region code A.	**Example:**
DVD-Video This unit plays DVD-Video marked with labels containing the region number "**1**" or "**ALL**".	**Example:**

As an ENERGY STAR® Partner,* Panasonic has determined that this product meets the ENERGY STAR® guidelines for energy efficiency.

* For Canada only: The word "Participant" is used in place of the word "Partner".

If you have any questions contact
U.S.A. and Puerto Rico:1-800-211-PANA(7262)
Canada:1-800-561-5505

Only for U.S.A. and Puerto Rico:The warranty can be found on page 46.
Canada:The warranty can be found on page 47.

P   PC

RQT9378-4P

IMPORTANT SAFETY INSTRUCTIONS

Read these operating instructions carefully before using the unit. Follow the safety instructions on the unit and the applicable safety instructions listed below. Keep these operating instructions handy for future reference.

1) Read these instructions.
2) Keep these instructions.
3) Heed all warnings.
4) Follow all instructions.
5) Do not use this apparatus near water.
6) Clean only with dry cloth.
7) Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
8) Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
9) Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding-type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
10) Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
11) Only use attachments/accessories specified by the manufacturer.
12) Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.
13) Unplug this apparatus during lightning storms or when unused for long periods of time.
14) Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

WARNING:
TO REDUCE THE RISK OF FIRE, ELECTRIC SHOCK OR PRODUCT DAMAGE,
● DO NOT EXPOSE THIS APPARATUS TO RAIN, MOISTURE, DRIPPING OR SPLASHING AND THAT NO OBJECTS FILLED WITH LIQUIDS, SUCH AS VASES, SHALL BE PLACED ON THE APPARATUS.
● USE ONLY THE RECOMMENDED ACCESSORIES.
● DO NOT REMOVE THE COVER (OR BACK); THERE ARE NO USER SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

CAUTION!
DO NOT INSTALL OR PLACE THIS UNIT IN A BOOKCASE, BUILT-IN CABINET OR IN ANOTHER CONFINED SPACE. ENSURE THE UNIT IS WELL VENTILATED. TO PREVENT RISK OF ELECTRIC SHOCK OR FIRE HAZARD DUE TO OVERHEATING, ENSURE THAT CURTAINS AND ANY OTHER MATERIALS DO NOT OBSTRUCT THE VENTILATION VENTS.

CAUTION!
THIS PRODUCT UTILIZES A LASER. USE OF CONTROLS OR ADJUSTMENTS OR PERFORMANCE OF PROCEDURES OTHER THAN THOSE SPECIFIED HEREIN MAY RESULT IN HAZARDOUS RADIATION EXPOSURE. DO NOT OPEN COVERS AND DO NOT REPAIR YOURSELF. REFER SERVICING TO QUALIFIED PERSONNEL.

CAUTION
Danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type recommended by the manufacturer. Dispose of used batteries according to the manufacturer's instructions.

The socket outlet shall be installed near the equipment and easily accessible. The mains plug of the power supply cord shall remain readily operable.
To completely disconnect this apparatus from the AC Mains, disconnect the power supply cord plug from AC receptacle.

⚠ CAUTION ⚠
RISK OF ELECTRIC SHOCK
DO NOT OPEN

CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE SCREWS. NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

THE FOLLOWING APPLIES ONLY IN THE U.S.A.
FCC Note:
This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:
● Reorient or relocate the receiving antenna.
● Increase the separation between the equipment and receiver.
● Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
● Consult the dealer or an experienced radio/TV technician for help.

FCC Caution: To assure continued compliance, follow the attached installation instructions and use only shielded interface cables when connecting to peripheral devices.
Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Declaration of Conformity
Trade Name: Panasonic
Model No.: DMP-BD80
　　　　　DMP-BD60
　　　　　DMP-BD601
　　　　　DMP-BD605

Responsible Party:
Panasonic Corporation of North America
One Panasonic Way
Secaucus, NJ 07094

Support Contact:
Panasonic Consumer Electronics Company
Telephone No.: 1-800-211-PANA (7262)

CAUTION —	VISIBLE AND INVISIBLE LASER RADIATION WHEN OPEN. DO NOT STARE INTO BEAM. FDA 21 CFR/Class II (IIa)
CAUTION —	CLASS 1M VISIBLE AND INVISIBLE LASER RADIATION WHEN OPEN. DO NOT VIEW DIRECTLY WITH OPTICAL INSTRUMENTS. IEC60825-1, +A2/CLASS 1M
ATTENTION —	RAYONNEMENT LASER VISIBLE ET INVISIBLE, CLASSE 1M, EN CAS D'OUVERTURE. NE PAS REGARDER DIRECTEMENT À L'AIDE D'INSTRUMENTS D'OPTIQUE.
FORSIGTIG —	SYNLIG OG USYNLIG LASERSTRÅLING KLASSE 1M, NÅR LÅGET ER ÅBENT. UNDGÅ AT SE LIGE PÅ MED OPTISKE INSTRUMENTER.
VARO —	AVATTAESSA OLET ALTTIINA LUOKAN 1M NÄKYVÄÄ JA NÄKYMÄTÖNTÄ LASERSÄTEILYÄ. ÄLÄ KATSO OPTISELLA LAITTEELLA SUORAAN SÄTEESEEN.
VARNING —	KLASS 1M SYNLIG OCH OSYNLIG LASERSTRÅLNING NÄR DENNA DEL ÄR ÖPPNAD. BETRAKTA EJ STRÅLEN DIREKT GENOM OPTISKT INSTRUMENT.
VORSICHT —	SICHTBARE UND UNSICHTBARE LASERSTRAHLUNG KLASSE 1M, WENN ABDECKUNG GEÖFFNET. NICHT DIREKT MIT OPTISCHEN INSTRUMENTEN BETRACHTEN.
注意 —	打开时有可见及不可见激光辐射。避免光束照射。
注意 —	ここを開くと可視光及び不可視レーザー光が出ます。 ビームを見たり、触れたりしないでください。 VQL1V70

(Inside of product)

Unit and media care

Disc and card handling

Clean discs

DO   DO NOT
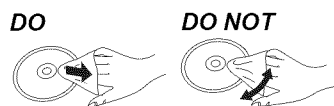
Wipe with a damp cloth and then wipe dry.

Disc and card handling precautions
- Handle discs by the edges to avoid inadvertent scratches or fingerprints on the disc.
- Do not attach labels or stickers to discs (This may cause disc warping, rendering it unusable).
- Do not write on the label side with a ball-point pen or other writing instrument.
- Do not use record cleaning sprays, benzine, thinner, static electricity prevention liquids or any other solvent.
- Do not use scratch-proof protectors or covers.
- Clean any dust, water, or foreign matter from the terminals on the rear side of the card.
- Do not use the following discs:
  – Discs with exposed adhesive from removed stickers or labels (rented discs etc).
  – Discs that are badly warped or cracked.
  – Irregularly shaped discs, such as heart shapes.

Maintenance

Clean this unit with a soft, dry cloth
- Never use alcohol, paint thinner or benzine to clean this unit.
- Before using chemically treated cloth, carefully read the instructions that came with the cloth.

Observe the following points to ensure continued listening and viewing pleasure.
Dust and dirt may adhere to the unit's lens over time, making it impossible to play discs.
Use the lens cleaner (not included) about once every year, depending on frequency of use and the operating environment. Carefully read the lens cleaner's instructions before use.

Lens cleaner: RP-CL720PP
• This lens cleaner is sold as specific for DIGA, but can be used without problem on this unit as well.

To dispose or transfer this unit

This unit may record information of your operating procedures. If you discard this unit either by disposal or transfer, then follow the procedures to return all the settings to the factory presets to delete the recorded information. ()
- When BD-Video is played back, the operation history may be recorded in the memory of this unit. The recorded contents differ depending on the disc.

Table of contents

About descriptions in these operating instructions
- These operating instructions are applicable to models DMP-BD80, DMP-BD60, DMP-BD601 and DMP-BD605. Unless otherwise indicated, illustrations in these operating instructions are of DMP-BD80.
  BD80 : indicates features applicable to DMP-BD80 only.
  BD60 BD601 BD605 : indicate features applicable to DMP-BD60, DMP-BD601 and DMP-BD605, respectively.

Accessory information

Please check and identify the supplied accessories. Use numbers indicated in parentheses when asking for replacement parts.
(Product numbers correct as of December 2008. These may be subject to change.)

Only for U.S.A. and Puerto Rico: To order accessories, refer to "Accessory Purchases (United States and Puerto Rico)" on page 46.
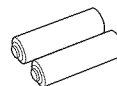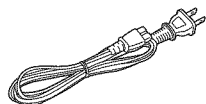**Only for Canada: To order accessories, call the dealer from whom you have made your purchase.**

☐

1 Remote control
(N2QAYB000378)
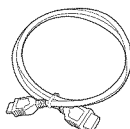
☐
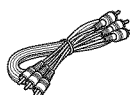
1 Audio/Video cable
(K2KA6BA00004)

☐

2 Batteries
for remote control

☐

1 AC power supply cord
(K2CB2CB00022)
● For use with this unit only.
  Do not use it with other equipment.
  Also, do not use cords from other
  equipment with this unit.

☐

1 HDMI cable
(DMP-BD605 only)
(K1HA19DA0005)

(Only for U.S.A. and Puerto Rico)
Product Registration Card
Please complete and return the included product registration card, or register via the Internet at:
http://www.prodreg.com/panasonic/

(ONLY FOR CANADA)
The enclosed Canadian French label sheet corresponds to the English display on the front and back side of the unit.

Using the remote control

Batteries
Insert so the poles (+ and −) match those in the remote control.
When closing the lid, insert it from the − (minus) side.
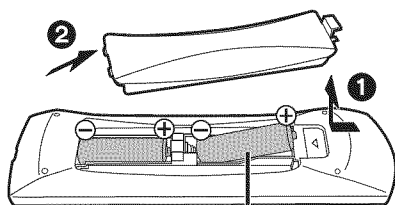
R6/LR6, AA

● Use alkaline or manganese batteries.
● Do not mix old and new batteries.
● Do not use different types at the same time.
● Do not heat or expose to flame.
● Do not leave the battery(ies) in an automobile exposed to direct
  sunlight for a long period of time with doors and windows closed.
● Do not take apart or short circuit.
● Do not attempt to recharge alkaline or manganese batteries.
● Do not use batteries if the covering has been peeled off.
Mishandling of batteries can cause electrolyte leakage which can
damage items the fluid contacts and may cause a fire.
Remove batteries if the remote control is not going to be used for a
long period of time. Store in a cool, dark place.

Use

Remote control signal sensor

7 m (23 feet) directly in front
of the unit
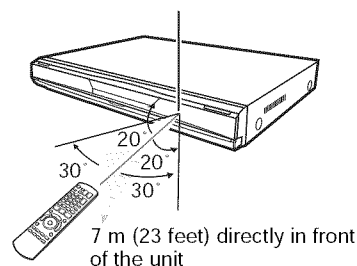
If you cannot operate the unit or other equipment using the remote
control after changing the batteries, please re-enter the codes
(⇨ 15, 36).

CAUTION
Do not place objects in front of the unit. The disc tray may collide with
objects when it is opened, and this may cause injury.

5

Media (Disc, card and USB device) information

Commercially sold discs

This chart shows the different type of retail/commercial discs you can use, and also includes the industry-standard logos that should appear on the discs and/or packaging.

Type of media	Logo	Features	Indicated as
BD-Video	*Blu-ray Disc*™	This format supports High Definition video and audio content including: ●BD-Live (BD-ROM Profile 2). This format provides interactive features when this player is connected to the Internet via a broadband connection. BD*LIVE*™ ●BONUSVIEW allows picture-in-picture functions to be viewed. BONUS*VIEW*™	BD-V
DVD-Video	DVD VIDEO™ DVD VIDEO™	This format supports high quality video and audio playback.	DVD-V
CD	COMPACT disc DIGITAL AUDIO	Compact Discs (CD's) that contain audio and music ●Operation and sound quality of CDs that do not conform to CD-DA specifications (copy control CDs, etc.) cannot be guaranteed. ● The digital audio content side of a DualDisc does not meet the technical specifications of the Compact Disc Digital Audio (CD-DA) format so play may not be possible.	CD

User recorded media

This chart shows the different type of discs recorded with other devices that you can use.

Finalized This mark means you must finalize the disc with the DVD recorder, etc. before playback. For details about finalizing, refer to the operating instructions for your equipment.

Type of media	Logo	Formats	Indicated as
BD-RE	*Blu-ray Disc*™	●Version 3 of the BD-RE Recording Format ●JPEG format	BD-V JPEG
BD-R	*Blu-ray Disc*™	●Version 2 of the BD-R Recording Format	BD-V
DVD-RAM	DVD RAM™ RAM4.7	●Version 1.1 of the DVD Video Recording Format ●JPEG format ●AVCHD format	DVD-VR JPEG AVCHD
DVD-R/RW **Finalized**	DVD R™ R4.7 DVD RW™ R W	●DVD-Video Format ●Version 1.1 of the DVD Video Recording Format ●AVCHD format ● BD80 : DivX format (DVD-RW is not supported) ●MP3 format (DVD-RW is not supported) ●JPEG format (DVD-RW is not supported)	DVD-V DVD-VR AVCHD DivX MP3 JPEG
DVD-R DL **Finalized**	DVD R™ R DL	●DVD-Video Format ●Version 1.2 of the DVD Video Recording Format ●AVCHD format ● BD80 : DivX format ●MP3 format ●JPEG format	DVD-V DVD-VR AVCHD DivX MP3 JPEG
+R/+RW/+R DL **Finalized**	—	●+VR (+R/+RW Video Recording) Format ●AVCHD format	DVD-V AVCHD
CD-R/RW **Finalized**	—	●CD-DA format ●MP3 format ●JPEG format ● BD80 : DivX format	CD MP3 JPEG DivX

●It may not be possible to play the above discs in some cases due to the type of discs, the condition of the recording, the recording method and how the files were created.
● When a disc recorded in the AVCHD format is being played, the video may be paused for a few seconds at portions spliced, due to deletion or editing.

SD cards

This chart shows the different type of cards recorded with other devices that you can use.

Type of media	Logo	Formats	Indicated as
SD Memory Card* (from 8 MB to 2 GB) SDHC Memory Card (from 4 GB to 32 GB)	—	● JPEG format ● AVCHD format ● MPEG2 format	JPEG AVCHD MPEG2

* Includes miniSD Card and microSD Card
The card types mentioned above will be referred to as "SD card" in these operating instructions.

● MiniSD Cards and microSD Cards can be used, but must be used with an adaptor card. These are usually supplied with such cards, or otherwise customer provided.
● We recommend using a Panasonic SD card. Please confirm the latest information on the following website.
http://panasonic.co.jp/pavc/global/cs
(This site is in English only.)
● This unit is compatible with SD Memory Cards that meet SD Card Specifications FAT12 and FAT16 formats, as well as SDHC Memory Cards in FAT32 format.
● When using cards from 4 GB to 32 GB, only SD cards using the SDHC logo can be used.
● Useable memory is slightly less than the card capacity.
● If the SD card you are attempting to use was formatted on a PC, it is possible that the card may not work properly.
● Keep the Memory Card out of reach of children to prevent swallowing.
● When a card recorded in the AVCHD format is being played, the video may momentarily pause, especially where one recording ends and the next one begins. This is normal and does not indicate a problem.
● To protect the card's contents, move the record prevention tab (on the SD card) to "LOCK".

USB devices

This unit can playback pictures by connecting the USB memory recorded with a PC or similar in following formats, and Panasonic digital cameras connected via USB cable.

Type of media	Logo	Formats	Indicated as
USB devices	—	● MP3 format ● JPEG format ● BD80 : DivX format	MP3 JPEG DivX

Compatible USB devices
● USB devices which are defined as USB mass storage class.
 – USB devices that support USB 1.0/1.1 and USB 2.0 Full Speed/High Speed.
● USB devices of up to 128 GB can be used.
● USB devices that support bulk only transfer.
 CBI (Control/Bulk/Interrupt) is not supported.
● Digital Cameras which require additional program installation when connected to a PC are not supported.
● MTP (Media Transport Protocol) device is not supported.
● A multi-port USB card reader is not supported.
File system
● FAT12, FAT16 and FAT32 file systems are supported.
● UDF/NTFS/exFAT file system is not supported.
● Depending on the sector size, some files may not work.
● Only the first partition on USB devices with multi-partition is supported.

Despite meeting the conditions mentioned above, there may be USB device that cannot be used with this unit.
This unit does not support USB device charging.

Discs that cannot be played in this unit

● BD-RE discs (with cartridge)
● 2.6 GB and 5.2 GB DVD-RAM
● DVD-RAM that cannot be removed from cartridge
● 3.95 GB and 4.7 GB DVD-R (Authoring)
● Version 1.0 DVD-RW
● DVD-ROM, CD-ROM, CDV, SACD, Photo CD, MV-Disc and PD
● DVD-Audio
● Video CD and SVCD
● WMA discs
● BD60 BD601 BD605 : DivX discs
● PAL Discs
● HD DVD
● BD-Video discs recorded at a rate of 50 fields/sec
● Any other disc that is not specifically supported

Audio and video information

About audio from audio output terminals

Before connecting, read the table below, and confirm the desired audio type and necessary settings ("BD-Video Secondary Audio", "Dolby D/Dolby D +/Dolby TrueHD" or "DTS/DTS-HD"). (⇨ 9)
● The number of channels listed is the maximum possible number of output channels.

HDMI AV OUT/DIGITAL AUDIO OUT (Coaxial BD80/Optical)

Terminal	HDMI AV OUT				DIGITAL AUDIO OUT	
"Dolby D/Dolby D +/Dolby TrueHD"/ "DTS/DTS-HD"	"Bitstream"*1		"PCM"*3		"Bitstream"	"PCM"
"BD-Video Secondary Audio"	"On"*2	"Off"	"On"	"Off"	"On"/"Off"	"On"/"Off"
Dolby Digital/ Dolby Digital EX*5	Dolby Digital/ Dolby Digital EX*6	Dolby Digital/ Dolby Digital EX	5.1ch PCM		Dolby Digital/ Dolby Digital EX*6	Down-mixed 2ch PCM
Dolby Digital Plus	Dolby Digital	Dolby Digital Plus	5.1ch PCM*2	7.1ch PCM	Dolby Digital	
Dolby TrueHD		Dolby TrueHD				
DTS Digital Surround/ DTS-ES*5	DTS Digital Surround/ DTS-ES*6	DTS Digital Surround/ DTS-ES	DVD-V: 5.1ch PCM		DTS Digital Surround/ DTS-ES*6	
			BD-V: 7.1ch PCM*4			
DTS-HD High Resolution Audio	DTS Digital Surround	DTS-HD High Resolution Audio	7.1ch PCM*4		DTS Digital Surround	
DTS-HD Master Audio		DTS-HD Master Audio				
7.1ch LPCM	Down-mixed 5.1ch PCM	7.1ch PCM	Down-mixed 5.1ch PCM*2	7.1ch PCM	Down-mixed 2ch PCM	

AUDIO OUT (Analog)

Terminal	7.1ch AUDIO OUT BD80		5.1ch AUDIO OUT BD80	2ch AUDIO OUT
"BD-Video Secondary Audio"	"On"	"Off"	"On"/"Off"	"On"/"Off"
Dolby Digital/ Dolby Digital EX	5.1ch		5.1ch	2ch
Dolby Digital Plus	5.1ch*2	7.1ch		
Dolby TrueHD				
DTS Digital Surround/ DTS-ES	DVD-V: 5.1ch			
	BD-V: 7.1ch*4			
DTS-HD High Resolution Audio	7.1ch*4			
DTS-HD Master Audio				
7.1ch LPCM	Down-mixed 5.1ch*2	7.1ch		

● Also, depending on the specifications or the settings of the amplifier/receiver, the results of the output may vary.
*1 When the connected equipment is not supported with these audio formats, the audio is output as Dolby Digital bitstream, DTS Digital Surround bitstream or down-mixed 2ch PCM (e.g., TV).
*2 BD-V: When playing BD-Video without secondary audio or button click sound, the audio is output as the same format as if "BD-Video Secondary Audio" was set to "Off".
*3 When the connected equipment is not supported with multi channel surround, the audio is output as down-mixed 2ch PCM.
*4 BD-V: When the connected equipment is supported with 7.1 channel surround, the audio output is amplified from 5.1ch or 6.1ch to 7.1ch depending on the DTS, Inc. specifications.
*5 With PCM output, Dolby Digital EX becomes PCM audio decoded as Dolby Digital, DTS-ES recorded to DVD-Video becomes PCM audio decoded as DTS Digital Surround, and DTS-ES recorded to BD-Video becomes PCM audio decoded as DTS-ES.
*6 BD-V: When "BD-Video Secondary Audio" is set to "On", Dolby Digital EX is output as Dolby Digital and DTS-ES is output as DTS Digital Surround, however if playing BD-Video without secondary audio or button click sound, the audio is output as the original format.

Enjoying High Bit rate Audio of BD-Video BD-V

This unit supports high bit rate audio (Dolby Digital Plus, Dolby TrueHD, DTS-HD High Resolution Audio and DTS-HD Master Audio) adopted in BD-Video. In order to enjoy these audio formats, the following conditions are necessary. (Part shown in the shaded area of table given above)

NECESSARY CONNECTIONS
● HDMI AV OUT terminal: (⇨ 12)
● 7.1ch AUDIO OUT terminal BD80: (⇨ 12)/5.1ch AUDIO OUT terminal BD80: (⇨ 13)

NECESSARY SETTINGS (⇨ 9)
● Set "BD-Video Secondary Audio" to "Off".
● HDMI AV OUT terminal: Set "Dolby D/Dolby D +/Dolby TrueHD" or "DTS/DTS-HD" to "Bitstream" or "PCM" .
● 7.1ch AUDIO OUT terminal BD80: Set "Analog Audio Output" to "7.1ch".
● 5.1ch AUDIO OUT terminal BD80: Set "Analog Audio Output" to "2ch (Downmix) + 5.1ch".

● The button click sound on the menu and audio with secondary video in picture-in-picture mode (⇨ 22) is not output.

Regarding 24p output [BD-V]

Many BD-Video movie contents are recorded in 24 frames/second in accordance with the film materials. However, they will normally be output in 60 frames/second in accordance with the display format.
These can be output in 24p as the original. Therefore, high-quality video can be enjoyed, such as the improved clarity, enhanced perspective, etc.

NECESSARY CONNECTIONS
● Connect to a TV supporting 1080/24p input via an HDMI cable.

NECESSARY SETTINGS
● "24p Output": "On" (➪ 34)

Necessary settings for audio output

After connecting to the terminals, perform necessary settings.

"BD-Video Secondary Audio"	1) While stopped Press [SETUP]. 2) Press [▲, ▼] to select "Audio" and press [OK]. 3) Press [▲, ▼] to select "Digital Audio Output" and press [OK]. 4) Press [▲, ▼] to select "Dolby D/Dolby D +/Dolby TrueHD", "DTS/DTS-HD", or "BD-Video Secondary Audio" and press [◄, ►] to select the option.	Audio Dynamic Range Compression · Off Digital Audio Output PCM Down Conversion · Off Downmix · Stereo High Clarity Sound · Disable OK RETURN
"Dolby D/Dolby D +/ Dolby TrueHD" "DTS/DTS-HD"		
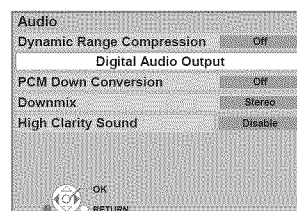
"Analog Audio Output" [BD80]	1) While stopped Press [SETUP]. 2) Press [▲, ▼] to select "TV / Device Connection" and press [OK]. 3) Press [▲, ▼] to select "Analog Audio Output" and press [OK]. 4) Press [▲, ▼] to select the option and press [OK]. 5) Press [OK]. ● The channel setting screen is displayed. (➪ 37)	Connection TV Aspect · 16:9 HDMI Connection Component Video Resolution · 480i Analog Audio Output · 2ch + 5.1ch OK RETURN
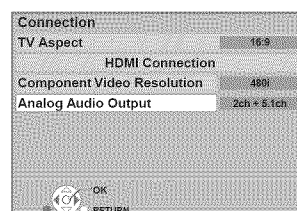
● For more information about settings, refer to page 33, 34, 37.
● When using the different terminal at the same time, the sound may not be output with the desired audio if the setting is incorrect.
In the following case, set "HDMI Audio Output" to "Off". (➪ 34)
  – [BD80]: When connecting a compatible amplifier/receiver using 7.1ch AUDIO OUT/5.1ch AUDIO OUT terminals, and connecting a compatible television using HDMI AV OUT terminal
  – [BD80]: When connecting a compatible amplifier/receiver using both 7.1ch AUDIO OUT/5.1ch AUDIO OUT terminals and HDMI AV OUT terminal if outputting the audio from analog terminals
  – When connecting a compatible amplifier/receiver using DIGITAL AUDIO OUT terminals, and connecting a compatible television using HDMI AV OUT terminal

To return to the previous screen
Press [RETURN].

To exit the screen
Press [SETUP].

Connections

About terminal

- This unit offers several different types of audio and video connections.
- Your TV/receiver/amplifier may or may not support all the connections shown.

Video Connections (TV) (⇨ 11)
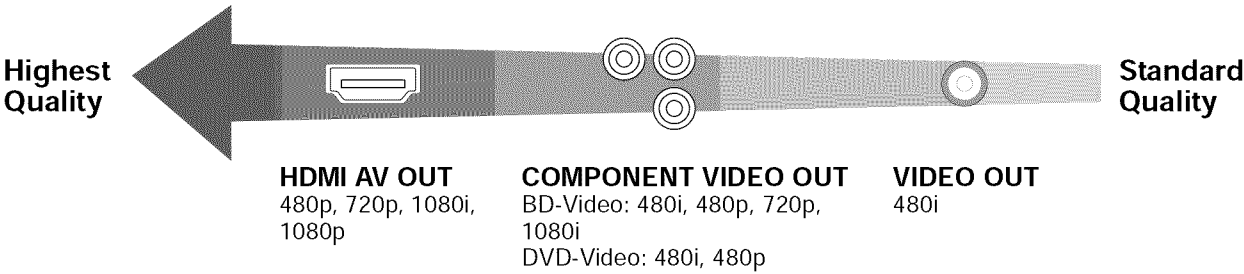
Highest Quality ◄——————————————————► Standard Quality

HDMI AV OUT
480p, 720p, 1080i,
1080p

COMPONENT VIDEO OUT
BD-Video: 480i, 480p, 720p,
1080i
DVD-Video: 480i, 480p

VIDEO OUT
480i

Digital Audio Connections (Receiver/Amplifier) (⇨ 12)

Highest Quality ◄——————————————————► Standard Quality

HDMI AV OUT

DIGITAL AUDIO OUT
(COAXIAL BD80/OPTICAL)

Analog Audio Connections (Receiver/Amplifier) (⇨ 12, 13)

Highest Quality ◄——————————————————► Standard Quality

7.1ch AUDIO OUT BD80   **5.1ch AUDIO OUT** BD80   **2ch AUDIO OUT**
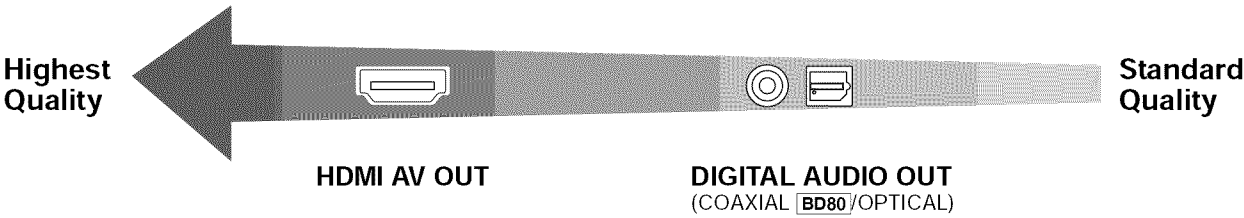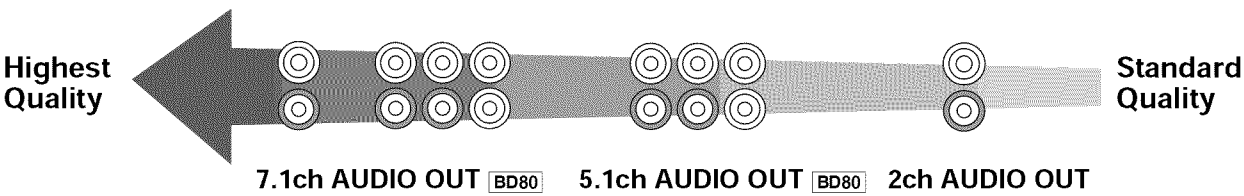
- Do not place the unit on amplifiers/receivers or equipment that may become hot. The heat can damage the unit.
- Before making any connections we strongly suggest that all units be temporarily disconnected from AC power.
- Do not connect video signals through a video recorder. Due to copy guard protection the picture may not be displayed properly

---

- **Non-HDMI-compliant cables cannot be utilized.**
- **BD80 BD60 BD601 : Please use High Speed HDMI Cables that have the HDMI logo (as shown on the cover). It is recommended that you use Panasonic's HDMI cable. When outputting 1080p signal, please use HDMI cables 5.0 meters (16.4 ft) or less.**
  Recommended part number:
  RP-CDHG10 (1.0 m/3.3 ft), RP-CDHG15 (1.5 m/4.9 ft.), RP-CDHG20 (2.0 m/6.6 ft), RP-CDHG30 (3.0 m/9.8 ft.), RP-CDHG50 (5.0 m/16.4 ft.), etc.
- **This unit incorporates HDMI (Deep Color, x.v.Color™, High Bit rate Audio) technology. (⇨ 50, 51)**

Video Connections (TV)

For audio output, refer to pages 12 and 13.

A Connecting to your TV, via HDMI AV OUT

HDMI cable
(Only included in
DMP-BD605)

HDMI IN

Television

Back of the unit

HDMI AV OUT
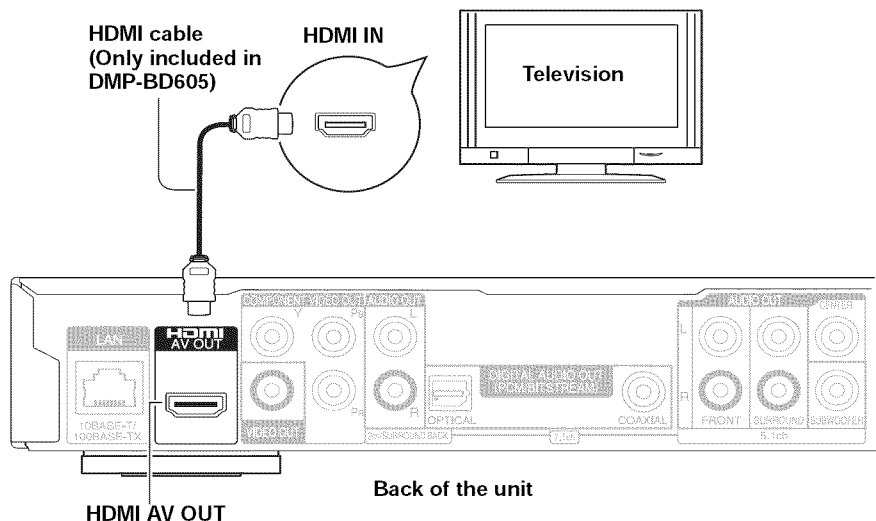
- •"HDMI Video Mode" and "HDMI Audio Output" should be set to "On". (➡ 34)
- •The HDMI connection supports VIERA Link "HDAVI Control" (➡ 28) when used with a compatible Panasonic TV.
- •This cable provides both Video and Audio connections.

B Connecting to your TV, via COMPONENT VIDEO OUT

Television

COMPONENT
VIDEO IN

Component Video cable

Back of the unit
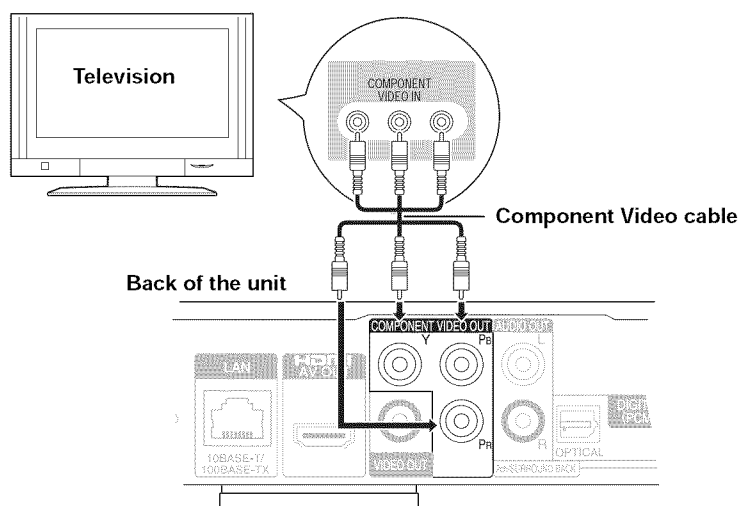
- •Connect terminals of the same color.
- •Set the "Black Level Control" to "Darker". (➡ 32)
- •Using the COMPONENT VIDEO OUT terminal, while playing DVD-Video, the video output resolution is limited to "480p".
- •Be sure your TV supports at least 480p. Set "Component Video Resolution" to "480p", "720p" or "1080i". (➡ 34)
- •If this unit is connected to an amplifier/ receiver, etc. via an HDMI cable with "HDMI Video Mode" set to "On" (➡ 34), the video will be fixed to 480i.
- •BD80 : Set "High Clarity Sound" on the on-screen menu to "Off" (➡ 31). (Otherwise, the video will not be output.)

C Connecting to your TV, via VIDEO OUT

Television

VIDEO IN

Audio/Video cable (included)

Back of the unit

VIDEO OUT
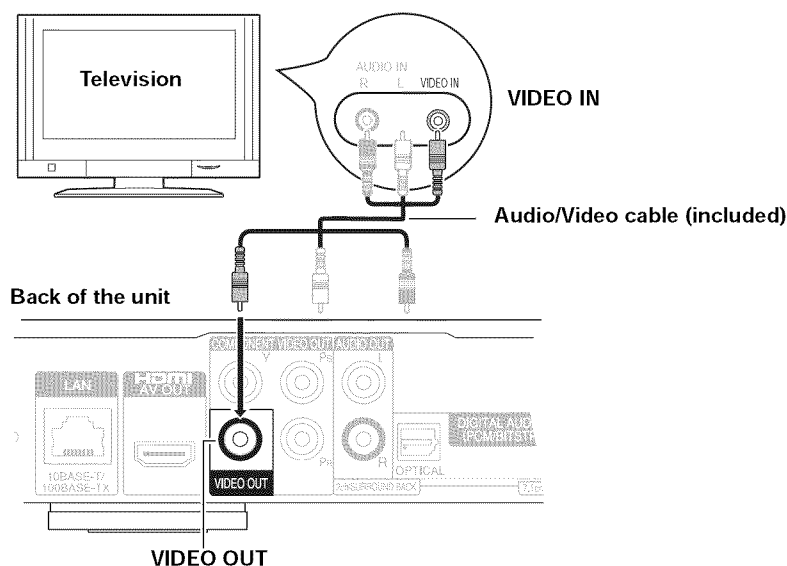
- •Connect terminals of the same color.
- •BD80 : Set "High Clarity Sound" on the on-screen menu to "Off" (➡ 31). (Otherwise, the video will not be output.)

Getting started

11

Connections

Digital Audio Connections

D Connecting to HDMI AV OUT terminal

Multi channel speakers / Television

HDMI OUT

HDMI IN

Amplifier/receiver

HDMI IN

HDMI cable
(Only included in DMP-BD605)

Back of the unit
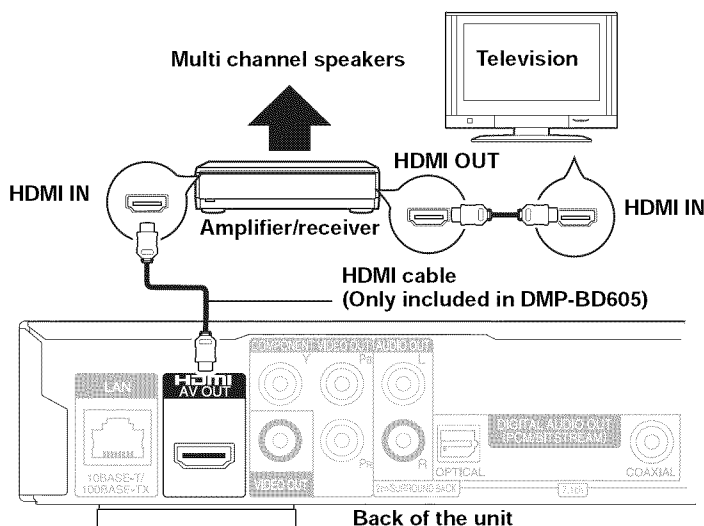
- "HDMI Video Mode" and "HDMI Audio Output" should be set to "On". (⇨ 34)
- "Digital Audio Output" : Depending on the connected amplifier/receiver. (⇨ 33)
- The HDMI connection supports VIERA Link "HDAVI Control" (⇨ 28) when used with a compatible Panasonic TV.
- Enjoying High Bit rate Audio of BD-Video (⇨ 8)

E Connecting to Digital Audio Output terminal

With COAXIAL ([BD80]) or OPTICAL   Coaxial cable

Back of the unit

COAXIAL IN

OR

Amplifier/receiver

OPTICAL IN

Optical digital audio cable
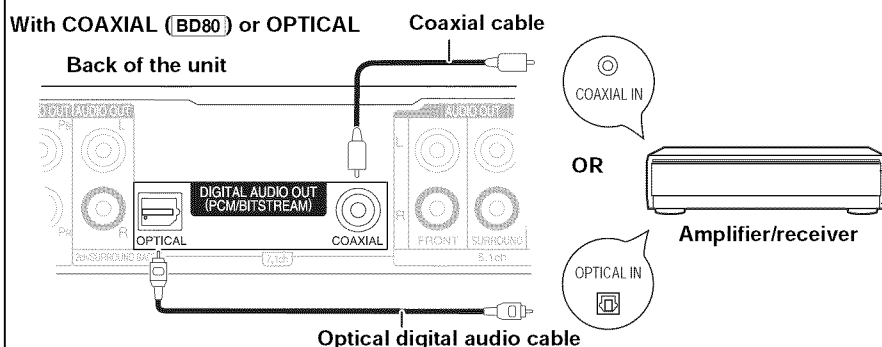
- Please set "Digital Audio Output" to the connection you will use, coaxial or optical digital. (⇨ 33)
- When connecting a TV (⇨ 11, **A**) with HDMI AV OUT terminal, set "HDMI Audio Output" to "Off". (⇨ 34)
  (Otherwise, the sound may not be output with the desired audio.)

Analog Audio Connections

F Connecting to 7.1ch AUDIO OUT terminal [BD80]

Multi channel speakers

Connect **Audio cables** to terminals corresponding to the speakers you have connected.

Back of the unit

Amplifier/receiver
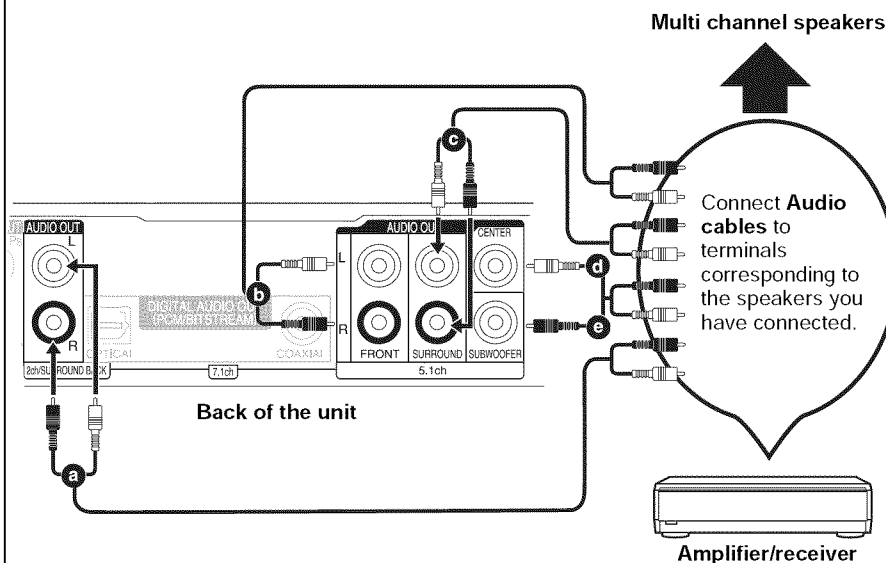
- "Analog Audio Output" should be set to "7.1ch". (⇨ 34)
- Enjoying High Bit rate Audio of BD-Video (⇨ 8)
- When connecting amplifier/receiver or other devices with HDMI AV OUT terminal, set "HDMI Audio Output" to "Off". (⇨ 34)
  (Otherwise, depending on the specifications of connected devices, the audio from AUDIO OUT terminal may be output as two channels only.)
- When connecting a TV (⇨ 11, **A**) with HDMI AV OUT terminal, set "HDMI Audio Output" to "Off". (⇨ 34)
  (Otherwise, the sound may not be output with the desired audio.)
- Depending on how the disc was recorded, the audio may not be output properly on the number of channels desired.

Cable connections
- **a** Surround back speaker (L/R)
- **b** Front speaker (L/R)
- **c** Surround speaker (L/R)
- **d** Center speaker
- **e** Subwoofer

G Connecting to 5.1ch AUDIO OUT terminal [BD80]

Multi channel speakers

Connect **Audio cables** to terminals corresponding to the speakers you have connected.

AUDIO OUT
CENTER
L
FRONT SURROUND SUBWOOFER
R
COAXIAL
5.1ch

Back of the unit

Amplifier/receiver
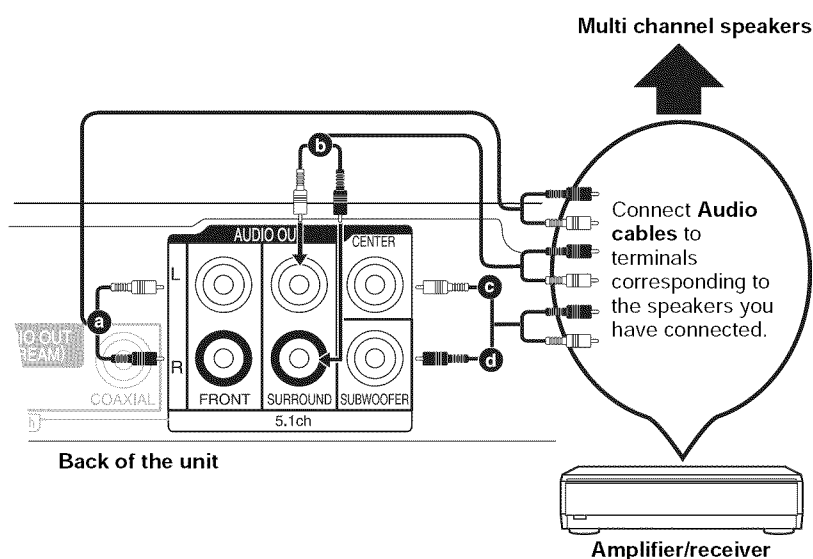
- "Analog Audio Output" should be set to "2ch (Downmix) + 5.1ch". (⇨ 34)
- Enjoying High Bit rate Audio of BD-Video (⇨ 8)
- Using this connection, 7.1 channel surround is mixed down to 5.1 channel audio.
- When connecting amplifier/receiver or other devices with HDMI AV OUT terminal, set "HDMI Audio Output" to "Off". (⇨ 34) (Otherwise, depending on the specifications of connected devices, the audio from AUDIO OUT terminal may be output as two channels only.)
- When connecting a TV (⇨ 11, **A**) with HDMI AV OUT terminal, set "HDMI Audio Output" to "Off". (⇨ 34) (Otherwise, the sound may not be output with the desired audio.)
- Depending on how the disc was recorded, the audio may not be output properly on the number of channels desired.

Cable connections
a Front speaker (L/R)
b Surround speaker (L/R)
c Center speaker
d Subwoofer

H Connecting to 2ch AUDIO OUT terminal

OR

Television

AUDIO IN
R   L

AUDIO IN

Amplifier/receiver

Audio/Video cable (included)

Back of the unit

LAN
HDMI AV OUT
AUDIO OUT
L
DIGITAL AUDIO
PCM/BITST
10BASE-T/100BASE-TX
VIDEO OUT
OPTICAL
2ch/SURROUND BACK
R
7.1B
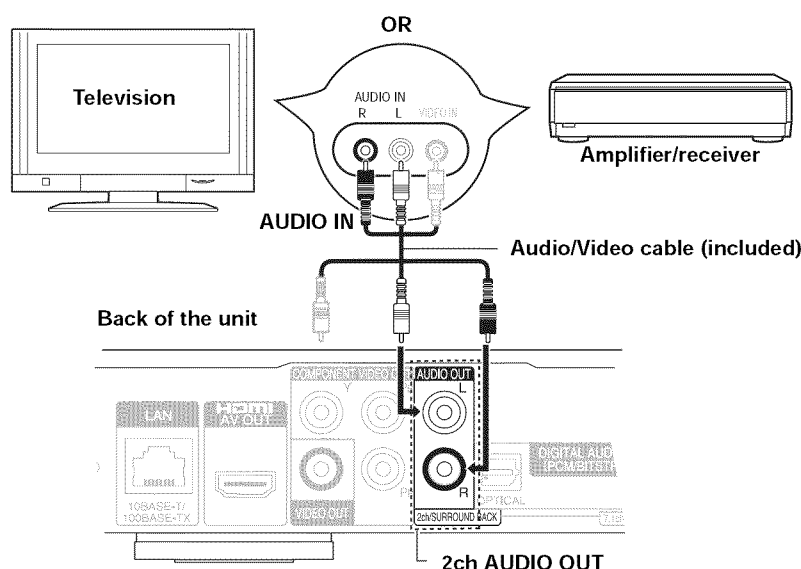
2ch AUDIO OUT

- "Analog Audio Output" should be set to "2ch (Downmix) + 5.1ch". (⇨ 34)
- Using the two analog audio channels this connection provides, you will not be able to use any surround sound audio modes.

AC power connection

Cooling fan

Back of the unit

AC IN ∼

AC power supply cord (included)

To a household AC outlet
(AC 120 V, 60 Hz)
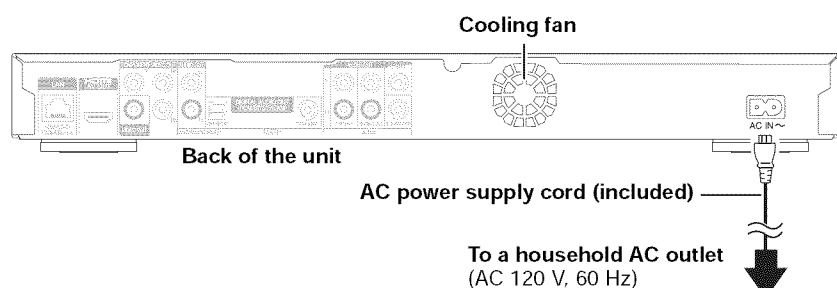
- For best results this unit should be connected directly to an AC outlet.
- This unit consumes a small amount of AC power ("Quick Start": "Off", less than 0.5 W) even when turned off. In the interest of power conservation, if you will not be using this unit for an extended period of time, it can be disconnected.

Getting started

Remote control and unit reference guide
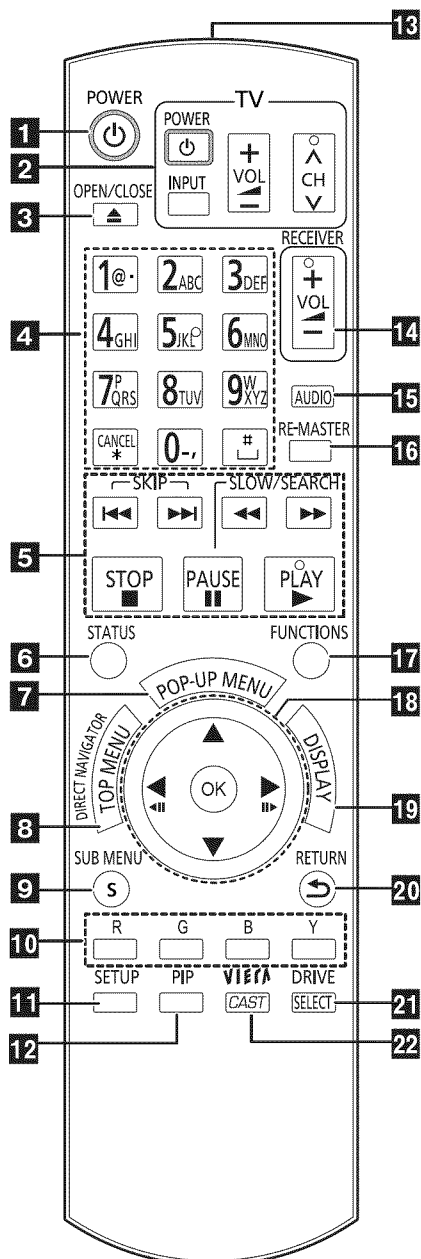
1 Turn the unit on and off (➪ 15)

2 TV operation buttons (➪ 15)
You can operate the TV through the unit's remote control.
[⏻ TV POWER] : Turn the television on and off
[INPUT] : Input select
[+ − VOL] : Adjust the volume
[∧ ∨ CH] : Channel select

3 Open or close the disc tray (➪ 19)

4 Select title numbers, etc./Enter numbers or characters (➪ 18, 20)
(The character buttons may be used when operating VIERA CAST contents. ➪ 27)
[CANCEL] : Cancel

5 Basic playback control buttons (➪ 19, 20)

6 Show status messages (➪ 20)

7 Show Pop-up menu (➪ 19)

8 Show Top menu/Direct Navigator (➪ 19)

9 Show sub menu (➪ 24)

10 These buttons are used when;
● Operating a BD-Video disc that includes Java™ applications (BD-J). For more information about operating this kind of disc, please read the instructions that came with the disc.
● Displaying "Title View" and "Album View" screens. (Only the [R] and [G] buttons, ➪ 24)
● Operating contents of VIERA CAST. (➪ 27)

11 Show Setup menu (➪ 32)

12 Switch on/off Secondary Video (Picture-in-picture) (➪ 22)

13 Transmit the remote control signal

14 Adjust the volume of an amplifier/receiver through the unit's remote control.

15 Select audio (➪ 21)

16 Reproduce more natural audio (➪ 21)

17 Show FUNCTIONS menu (➪ 21)

18 Selection/OK, Frame-by-frame (➪ 20)

19 Show on-screen menu (➪ 30)

20 Return to previous screen

21 Select drive (BD/DVD/CD, SD card or USB device) (➪ 19)

22 Displays the Home screen of the VIERA CAST (➪ 27)
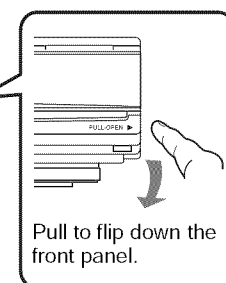
① **POWER button (POWER ⏻/l)** (➪ 15)
Press to switch the unit from on to standby mode or vice versa. In standby mode, the unit is still consuming a small amount of power.

② Display

Disc indicator   SD card indicator   USB device indicator

The indicator blinks when reading data from a disc, a card or a USB device, or writing data to a card.
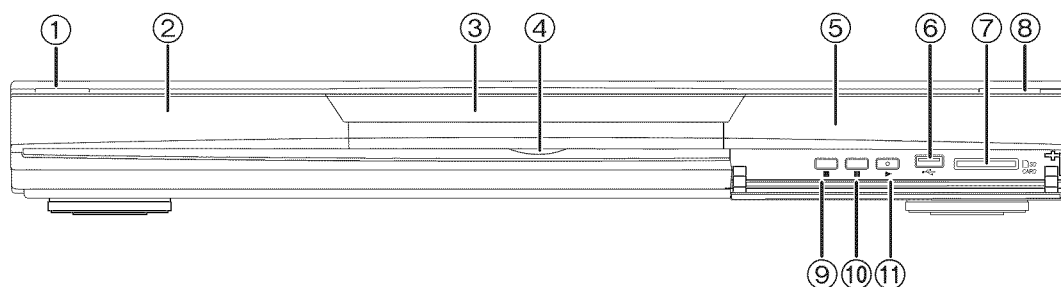
③ Disc tray (➪ 19)

④ BD80 : SD Card LED
● It is possible to set the LED to turn on/off. (➪ 34, SD Card LED Control)

⑤ Remote control signal sensor (➪ 5)

⑥ USB port (➪ 19)

⑦ SD card slot (➪ 19)

⑧ Open or close the disc tray (➪ 19)

⑨ Stop (➪ 20)

⑩ Pause (➪ 20)

⑪ Start play (➪ 19)

Rear panel terminals (➪ 10–16)

Pull to flip down the front panel.

Setting

Easy Setting

After connecting your new player and pressing the power button, a screen for the basic settings will appear.
Preparation
Turn on the television and select the appropriate video input on the television.

### ❶ Press [⏻ POWER].
Setup screen appears.
● If this unit is connected to a Panasonic TV (VIERA) supporting HDAVI Control 2 or later via an HDMI cable, then the "On-screen Language" and "TV Aspect" setting information on the TV are captured from the TV.

❷ Follow the on-screen instructions and make the settings with [▲, ▼] and [OK].
"On-screen Language", "TV Aspect", "Analog Audio Output" **BD80** and "Quick Start" are set. (➾ 33-35)
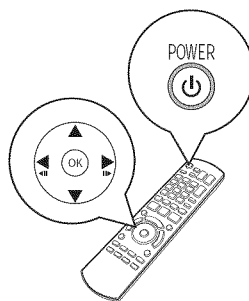
● You can perform this setup anytime by selecting "Easy Setting" in the Setup menu. (➾ 35)
● You can also change these settings individually. (➾ 33-35)

Reprogramming the remote control for TV/amplifier/receiver control

You can operate the TV or amplifier/receiver using the unit's remote control.
Point the remote control at the television or amplifier/receiver.

❶ For televisions
Input the 4-digit code with the numbered buttons while pressing [⏻ TV POWER].
For amplifiers/receivers
Input the 4-digit code with the numbered buttons while pressing [RECEIVER − VOL].
e.g., 0001: [0] ➾ [0] ➾ [0] ➾ [1]

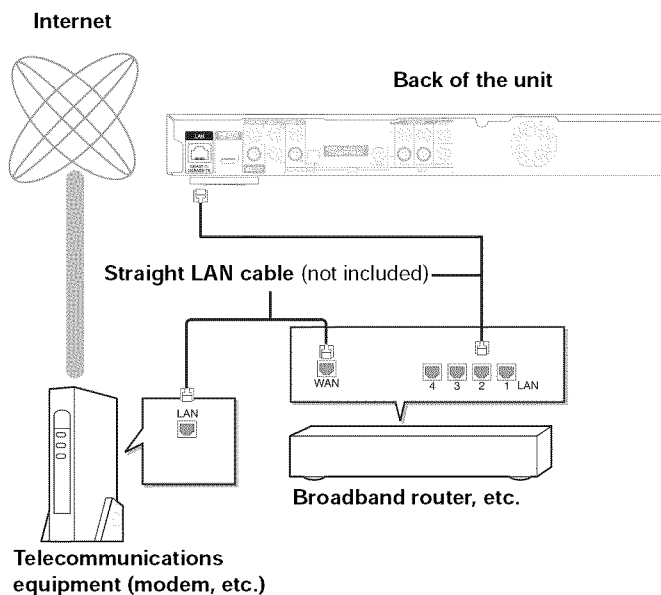### ❷ Test by turning on the television or adjusting the volume of the amplifier/receiver.

● If your television or amplifier/receiver brand has more than one code listed, select the one that allows correct operation.
● If your television or amplifier/receiver brand is not listed or if the code listed for them does not allow control of your television or amplifier/receiver, this remote control is not compatible with them. Use their remote control.

Brand	TV Code	Brand	TV Code	Brand	Amplifier Code	Receiver Code
Panasonic	0051/0055/0250/0650	MITSUBISHI	0014/0019/0093/0098/0150/0155/0178/0331/0358/0836/0868/1250	Panasonic	0308	1308/0039/0367/1641/2001/2002
ADVENT	0761/0783/0815/0817/0842	NORCENT	0748/0824/1089	TECHNICS	0308	1308/0039/0208
AKAI	0030/0098/0672/0702/0812	OPTOMA	0887	BOSE	0674	1229/0639/1253/1933
AMERICA ACTION	0180	ORION	0179/0236/0463/1463	DENON		1360/0004/0121/0273/1142/1306/1311
AOC	0003/0019/0030/0052/0137/0185	PHILIPS	0054/0690/1154/1454	HARMAN		0110/0189/1289/1306
APEX DIGITAL	0748/0765/0767/0879/0890	PHILIPS MAGNAVOX	0020/0024/0028/0030/0036/0054/0096/0179/0186/0187/0230/0386/0690/0706/0802/1154/1254/1454	KARDON		0110/0189/1289/1306
AUDIOVOX	0003/0092/0180/0451/0623/0802/0875/1937			KENWOOD		1313/0027/0042/0077/0186
AXION	1937	PIONEER	0038/0166/0172/0679/0866	KLH		1390/1412/1428
BANG & OLUFSEN	0620/1620	POLAROID	0765/0865/1262/1276/1314/1316/1326/1327/1328/1341/1498/1523	LINN		0189
BROKSONIC	0003/0236/0463	PROSCAN	0047/0747/1347/1447	MARANTZ		1189/1269/0039/0189/1120/1289
CASIO	0611/1205	PROVIEW	0835/1401/1498	MCINTOSH	0251	1289
DAEWOO	0019/0039/0066/0067/0091/0092/0451/0623/0661/0672/1661	RCA	0018/0019/0029/0038/0047/0090/0135/0174/0278/0679/0747/1047/1147/1247/1347/1447/1547	NAD		0320
EMERSON	0019/0038/0039/0154/0158/0171/0177/0178/0179/0180/0181/0182/0183/0185/0236/0270/0280/0282/0463/0623	RUNCO	0017/0030/0251/0497/0603	ONKYO		0135/0380/1298/1320
		SAMPO	0030/0032/0039/0052/0100/0110/1755	PHILIPS		1189/1269/0189/0391/1120/1266/1368
ENVISION	0030/0813	SAMSUNG	0019/0030/0032/0056/0060/0178/0329/0408/0427/0587/0702/0766/0812/0814/1060	PIONEER	0823	1023/0150/0244/0531/0630/1343/1384
EPSON	0833/0840			QUASAR		0039
FISHER	0154/0159	SANSUI	0463	RCA	0823	1023/1609/1254/0054/0530/0531/1074/1390/1511
FUJITSU	0179/0186/0683/0809/0853	SANYO	0088/0107/0146/0154/0159/0232/0484/0799/0893	SAMSUNG		1295
GE	0021/0027/0029/0047/0051/0055/0135/0138/0174/0178/0251/0279/0282/0451/0747/1347/1447	SHARP	0039/0093/0153/0157/0165/0220/0281/0386/0398/0491/0688/0818/0851	SANYO		1251/1469/1801
GOLDSTAR	0019/0030/0032/0106/0178/0317/0409/0442/0457/0700/0856/1178/1265	SONY	0000/0011/0080/0111/0273/0353/0810/0834/0867/1100	SHARP		0186/1361
GO VIDEO	0886	SVA	0587/0748/0768/0865/0870/0871/0872	SHERWOOD		0491/0502/1077/1423/1517/1653
HAIER	0768/1034	SYLVANIA	0020/0028/0030/0054/0065/0096/0171/0381	SONY	0815/1126	1622/0158/0168/0474/1367/1529/1658/1758
HANNSPREE	1348/1351/1352	SYMPHONIC	0171/0180	TEAC		0463/1074/1390
HEWLETT PACKARD	1088/1089/1101/1494/1502	SYNTAX-BRILLIAN	1007/1144/1240/1255/1257/1258/1331	TOSHIBA		0135
HISENSE	0748	TATUNG	0003/0049/0055/0396/1101/1756	YAMAHA	0354	1023/0176/0186/1331
HITACHI	0016/0032/0038/0056/0095/0097/0145/0151/0173/0227/0279/0409/0413/1145	THOMSON	0209/0210/0047			
INFOCUS	0736/0738/0741/0752/0781/1164/1516	TOSHIBA	0036/0060/0149/0154/0156/0650/0832/0845/1156/1164/1256/1265/1356/1656/1704			
JVC	0036/0053/0069/0160/0169/0182/0731/1253	ULTRA	0391			
KLH	0765/0767	VIEWSONIC	0857/0864/0885/1755			
LG	0019/0030/0032/0106/0178/0317/0409/0442/0457/0700/0856/1178/1265	WESTINGHOUSE	0885/0889/0890/1282/1577			
LOEWE	0136	YAMAHA	0019/0030/0769/0833/0839			
MAGNAVOX	0020/0024/0028/0030/0036/0054/0096/0179/0186/0187/0230/0386/0706/0802/1254/1454	ZENITH	0016/0017/0092/0178/0463/1265			
MARANTZ	0030/0054/0444/0704/0854/0855/1154					
MEMOREX	0016/0106/0150/0154/0178/0179/0463					

Broadband network connection

The following services can be used when this unit is connected to broadband.
- Firmware can be updated (⇨ right)
- You can enjoy the BD-Live (⇨ 22)
- You can enjoy the VIERA CAST (⇨ 27)

Internet

Back of the unit

Straight LAN cable (not included)

WAN   4 3 2 1 LAN

Broadband router, etc.

Telecommunications equipment (modem, etc.)

- Use shielded LAN cables when connecting to peripheral devices.
- With installation where your broadband modem is connected directly to your PC, a router must be installed.
- Use a router that supports 10BASE-T/100BASE-TX.
- In case all available connection on your router is being used, a hub or switch can be installed to provide additional connections.
- When operating the VIERA CAST, use high-speed internet service no less than 1.5 Mbps for SD (Standard Definition) and 6 Mbps for HD (High Definition) picture quality by your local broadband company.
  - If using slow Internet connection, the video may not be displayed correctly.
- After physically connecting this unit to your broadband connection, some configuration is required. (⇨ 17)
- Inserting any cable other than a LAN cable in the LAN terminal can damage the unit.

Firmware updates

Occasionally, Panasonic releases firmware updates for this BD Player. Firmware is embedded software that controls this unit's microprocessor. These updates may add or improve a feature of this unit. Firmware updates may also be released to correct operating irregularities that are discovered with certain movies. These updates are available at no charge.

Automatically check the firmware

This unit is capable of auto firmware check if it is connected to the Internet via a broadband connection.
When latest firmware version is available, the following screen is displayed.
Select "Yes" or "No".

Firmware Update

The latest firmware is available.
Latest Online Version: x.x
Current Installed Version: x.x
Do you want to start firmware update?
For the update information, please visit the following website:
http://panasonic.net/support/

Yes   **No**

- If "Yes" is selected, then follow the on-screen instructions.
- If "No" is selected, then manually update the firmware later. (⇨ below)

After the latest firmware is downloaded, the system will be restarted and the firmware will be updated.

When the system is restarted, the screen display disappears and "START" is displayed on the unit's display.

After the firmware is updated and the system is restarted, the following screen indicates that the firmware update has been completed.

The firmware was updated.
Current Installed Version: x.x

OK
RETURN

- During the update process, no other operations can be performed. Serious damage may occur if you turn the power off and/or press any buttons.

- Downloading will require several minutes. It may take longer or the Internet may not be connected depending on the connection environment. It is required that you use a broadband connection.
- When the unit is connected to the Internet, communication charges may be generated.
- If you do not want to check for the latest firmware version when the unit is turned on, set "Automatic Update Check" to "Off". (⇨ 36)

Manually updating the firmware

If the firmware update is not carried out when the unit is turned on, a message is displayed when displaying the FUNCTIONS menu.

The latest firmware is available.
Please update firmware in Setup.

1) Press [SETUP].
2) Press [▲, ▼] to select "Others" and press [OK].
3) Press [▲, ▼] to select "Firmware Update" and press [OK].
4) Press [▲, ▼] to select "Update Now" and press [OK].
5) Press [◄, ►] to select "Yes" and press [OK].

If downloading on this unit fails or this unit is not connected to the Internet, then you can download the latest firmware from the following website and burn it to a CD-R to update the firmware.
http://panasonic.net/support/
(This site is in English only.)

Network settings

These settings are used if you will connect this unit to the Internet.
● The connection to the Internet may take time or the Internet may not be connected depending on the connection environment. (⇨ 35)
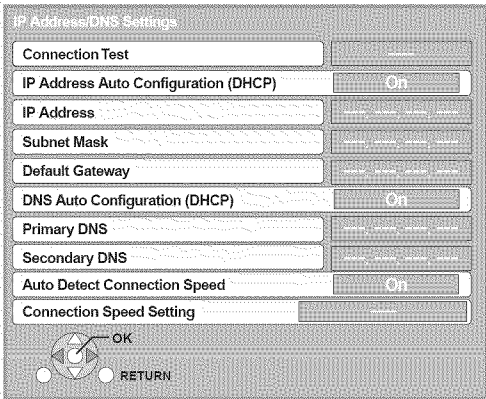It is required that you use a broadband connection.

Preparation
● Connect to a broadband network. (⇨ 16)
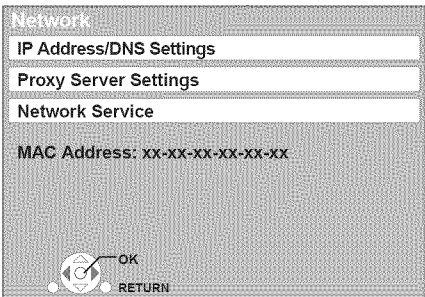
Testing of "IP Address/DNS Settings"

Always test the connection when a LAN cable is connected.

❶ **Press [SETUP].**
❷ **Press [▲, ▼] to select "Network" and press [OK].**
❸ **Press [▲, ▼] to select "IP Address/ DNS Settings" and press [OK].**
❹ **Press [▲, ▼] to select "Connection Test" and press [OK].**

> **IP Address/DNS Settings**
> | Connection Test | |
> | IP Address Auto Configuration (DHCP) | On |
> | IP Address | |
> | Subnet Mask | |
> | Default Gateway | |
> | DNS Auto Configuration (DHCP) | On |
> | Primary DNS | |
> | Secondary DNS | |
> | Auto Detect Connection Speed | On |
> | Connection Speed Setting | |
>
> OK
> RETURN

"Testing": The test is in progress.
"Pass": The connection is completed.
        Press [RETURN] to exit.
"Fail": Please check the connection and settings. (⇨ 40)

● Perform the "Connection Test" also when any change was made to the "IP Address/DNS Settings".

● If the connection test fails, it may be necessary to set the MAC address of this unit at the router side. The MAC address can be displayed by pressing [SETUP] and selecting "Network".

> **Network**
> | IP Address/DNS Settings |
> | Proxy Server Settings |
> | Network Service |
>
> MAC Address: xx-xx-xx-xx-xx-xx
>
> OK
> RETURN

Setting the IP address

In most cases, default settings can normally be used without making any changes.
Set the IP address only when the router has no DHCP server functions or when the router's DHCP server function is disabled.
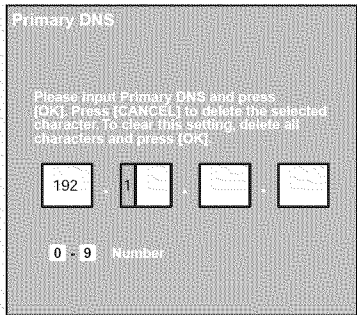**After performing steps ❶–❸ (⇨ left)**

❹ **Press [▲, ▼] to select "IP Address Auto Configuration (DHCP)" and press [◄, ►] to select "Off".**
❺ **Press [▲, ▼] to select "IP Address", "Subnet Mask" or "Default Gateway" and press [OK].**
❻ **Enter numbers with the numbered buttons and press [OK].**
❼ **Press [◄, ►] to select "Yes" and press [OK].**

● After checking the specifications for your broadband router, enter each number. If the number is unknown, then check the number of other devices such as personal computers connected via a LAN cable. Assign a different number from those of other devices for the "IP Address" and the same number for others.
● If a wrong number is entered, then press [CANCEL].
● The numeric input range is between 0 and 255.

Setting the DNS-IP

In most cases, default settings can normally be used without making any changes.
When setting an assigned DNS server from your Internet service provider, perform the following settings.
After performing steps ❶–❸ (⇨ left)

❹ **Press [▲, ▼] to select "DNS Auto Configuration (DHCP)" and press [◄, ►] to select "Off".**
❺ **Press [▲, ▼] to select "Primary DNS" or "Secondary DNS"and press [OK].**
❻ **Enter numbers with the numbered buttons and press [OK].**

> **Primary DNS**
>
> Please input Primary DNS and press [OK]. Press [CANCEL] to delete the selected character. To clear this setting, delete all characters and press [OK].
>
> | 192 | | | | | |
>
> 0 - 9 Number

❼ **Press [◄, ►] to select "Yes" and press [OK].**

● Follow the instructions given by your Internet service provider and enter the numbers. If the number is unknown, then check the number of other devices such as personal computers connected via a LAN cable and assign the same number.
● If a wrong number is entered, then press [CANCEL].
● The numeric input range is between 0 and 255.

Network settings

Setting the connection speed

When the connection test results in "Fail" after the IP and DNS-IP addresses are assigned, perform the following settings.

After performing steps ❶-❸ (➪ 17)

❹ Press [▲, ▼] to select "Auto Detect Connection Speed" and press [◄, ►] to select "Off".

❺ Press [▲, ▼] to select "Connection Speed Setting" and press [◄, ►] to select a connection speed.

- Select a connection speed in accordance with the environment of the network connected.
- When the settings are changed, the network connection may be disabled depending on the device.

Testing of "Proxy Server Settings"

Always test the connection when new "Proxy Server Settings" have been made.

❶ Press [SETUP].

❷ Press [▲, ▼] to select "Network" and press [OK].

❸ Press [▲, ▼] to select "Proxy Server Settings" and press [OK].

❹ Press [▲, ▼] to select "Connection Test" and press [OK].

"Testing": The test is in progress.
"Pass": The connection is completed. Press [RETURN] to exit.
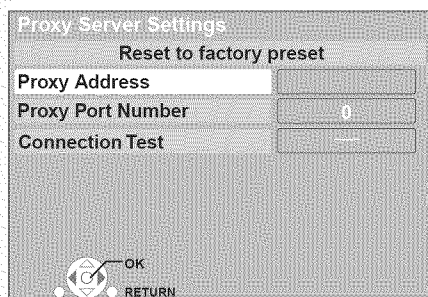"Fail": Please check the connection and settings.

Setting the proxy server

In most cases, default settings can normally be used without making any changes.
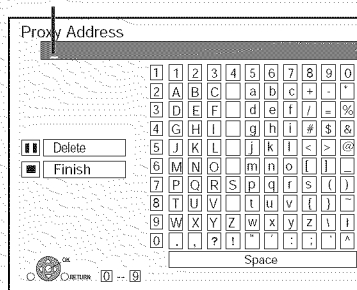Please use this setting when instructed to by your Internet service provider.

After performing steps ❶-❸ (➪ above)

❹ Press [▲, ▼] to select "Proxy Address" and press [OK].

Proxy Server Settings
Reset to factory preset
Proxy Address
Proxy Port Number   0
Connection Test

OK
RETURN

❺ Press [▲, ▼, ◄, ►] to select a character and press [OK].

Text field: shows the text you have entered

Proxy Address

1 2 3 4 5 6 7 8 9 0
2 A B C   a b c + - '
3 D E F   d e f / = %
4 G H I   g h i # $ &
Delete   5 J K L   j k l < > @
Finish   6 M N O   m n o ( ) _
7 P Q R S p q r s ( )
8 T U V   t u v)) ~
9 W X Y Z w x y z \ |
0 . , ? !   ` : ; ^

Space
OK RETURN   0 -- 9

Using the numbered buttons to enter characters
e.g., entering the letter "F"
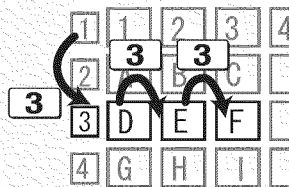
1) Press [3] to move to the 3rd row.
2) Press [3] twice to highlight "F".
3) Press [OK].
Repeat this step to enter other characters.
- Press [▐▐] to delete.

❻ Press [■] when you complete the entry.

❼ Press [▲, ▼] to select "Proxy Port Number" and press [OK].

❽ Enter numbers with the numbered buttons and press [OK].

Proxy Port Number

Please input Proxy Server Port Number and press [OK]. Press [CANCEL] to delete the selected character. The number will be set to "0" if all characters are deleted and [OK] is pressed.

0

0 - 9   Number
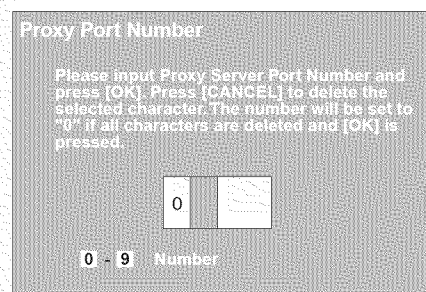
❾ Press [◄, ►] to select "Yes" and press [OK].

- The specified ports may be blocked and not be able to be used depending on the network environment.

In order to restore the default settings

After performing steps ❶-❸
1) Press [▲, ▼] to select "Reset to factory preset" and press [OK].
2) Press [◄, ►] to select "Yes" and press [OK].

Inserting or removing a media

Inserting or removing a disc

❶ Press [▲ OPEN/CLOSE] to open the disc tray.
❷ Insert or remove the disc
●Press [▲ OPEN/CLOSE] again to close the disc tray.
●DVD-RAM: Remove discs from their cartridges before use.
●Insert double-sided discs so the label for the side you want to play is facing up.

Inserting or removing an SD card
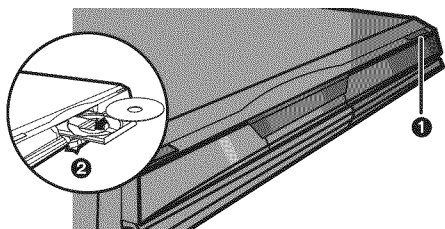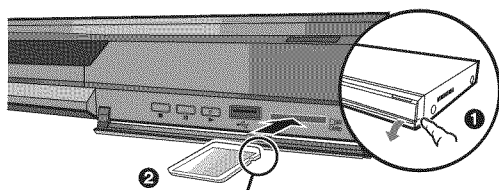
Inserting an SD card

Insert the card's label up, positioning the cut off corner to the right.

❶ Pull to flip down the front panel.
❷ Insert the SD card into the SD card slot.
 ● Press on the center of the card until it clicks into place.

Removing the SD card
Press on the center of the card and pull it straight out.
●When the card indicator ("SD") on the unit's display is flashing, the card is being read from or written to. Do not turn off the unit or remove the card. Such action may result in malfunction or loss of the card's contents.

Inserting or removing a USB device

Inserting a USB device
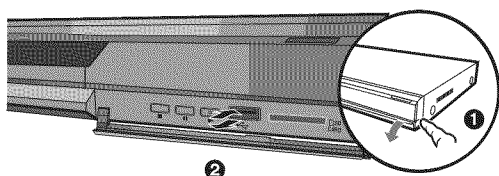
●Before inserting any USB device into this unit, ensure that the data stored therein has been backed up.
●Check the orientation of the USB connector and insert it straight in.
●Some USB devices inserted into this unit may cause this unit to stop operating. Such USB devices cannot be used on this unit.

❶ Pull to flip down the front panel.
❷ Insert the USB device into the USB port.

Removing the USB device
Complete all USB device-related operations and pull the USB device straight out.
●When the USB device indicator is flashing, the USB device is being read from. Do not turn off the unit or remove the USB device. Such action may result in malfunction or loss of the USB device's contents.

Since the physical size of USB devices can vary, please consider its width when connecting any USB device to this unit. It is possible that some devices may accidentally activate the playback button and cause this unit to not operate properly.
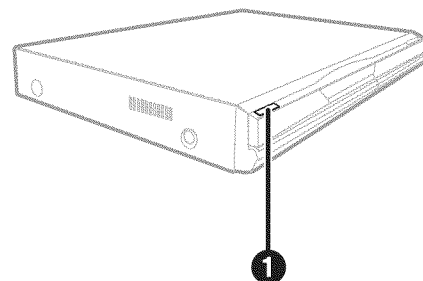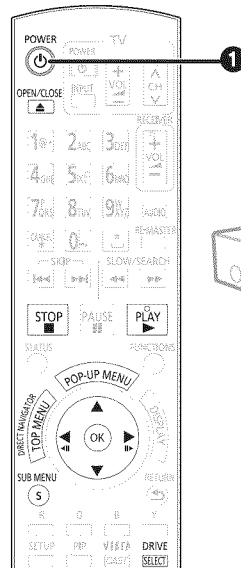– In such cases we recommend using a USB extension cable (not included).

Basic play (Playing video contents)

Instructions for operations are generally described using the remote control in these operating instructions.
DivX: [BD80] only

Preparation
Turn on the television and select the appropriate video input on the television.

❶ Press [⏻ POWER] to turn on the unit.
❷ Insert the media (⇨ left).

Play starts.
●If play does not start, press [▶] (PLAY).
●If a media with data in different file formats is inserted, the file selection menu is displayed.
Press [▲, ▼] to select the desired file format and press [OK].
●If the menu is displayed, press [▲, ▼, ◀, ▶] to select the item and press [OK].
●If the screen prompting you to use the color buttons appears, continue to operate with the color buttons on the remote control.

e.g.,

●DISCS CONTINUE TO ROTATE WHILE MENUS ARE DISPLAYED. Press [■] when you finish to preserve the unit's motor and your television screen.
●The producers of the disc can control how discs are played. So you may not always be able to control play as described in these operating instructions. Read the disc's instructions carefully.
●When playing a set of two or more BD-Video discs, the menu screen may continue to display even if the disc has been ejected.

To switch drives
Press [DRIVE SELECT] to select "BD/DVD/CD", "SD card" or "USB device".
●If a media is inserted while the unit is stopped, the drive switches automatically depending on the inserted media.

To display menus
BD-V **AVCHD** **DVD-VR** **DVD-V** **DivX**
Press [TOP MENU/DIRECT NAVIGATOR].

To show Pop-up menu **BD-V**
The Pop-up menu is a special feature available with some BD-Video discs. This menu may vary with discs. For the operating method, refer to the instructions for the disc.
1) Press [POP-UP MENU].
2) Press [▲, ▼, ◀, ▶] to select the item and press [OK].
●Pop-up menu also appears by pressing [SUB MENU] and selecting "Pop-up Menu".
●Press [POP-UP MENU] to exit the screen.

⑲

Basic play (Playing video contents)

Other operations during play
(These functions may not work depending on the media.)

STOP Stop

The stopped position is memorized.

Resume play function
Press [►] (PLAY) to restart from this position.
● The position is cleared if the tray is opened or you press [■] several times to display "STOP" on unit's display.
● **BD-V**: On BD-Video discs including BD-J (⇨ 50), the resume play function does not work.
● **CD** **MP3** **DivX** **MPEG2**: The position is cleared if the unit is turned off.

PAUSE Pause

● Press [❚❚] again or [►] (PLAY) to restart play.

SLOW/SEARCH ◄◄ ►► Search/Slow-motion

The speed increases up to 5 steps.
● Press [►] (PLAY) to revert to normal playback speed.
● For some discs, the speed may not change.

Search
While playing, press [◄◄] or [►►].
● **BD-V** **AVCHD** **DVD-VR** **DVD-V**:
Audio is heard during first level of forward search.
● **DivX** **MPEG2**: Audio is not heard during all levels of search.
● **CD** **MP3**: The speed is fixed to a single step.

Slow-motion
While paused, press [◄◄] or [►►].
● **BD-V** **AVCHD**: Forward direction [►►] only.
● **DVD-VR**: If continued for approx. 5 minutes, slow-motion play pauses automatically.

SKIP |◄◄ ►►| Skip

Skip to the title, chapter or track you want to play.
● Each press increases the number of skips.
● **DivX**: Backward direction [|◄◄] only.

Direct Play
1 2 3
4 5 6
7 8 9
0

During playback, you can access specific recordings or scenes through direct entry of the numbered buttons.
Play starts from the selected title or chapter.

BD-V **AVCHD**
e.g., 5: [0] ⇨ [0] ⇨ [5]
15: [0] ⇨ [1] ⇨ [5]

DVD-V
e.g., 5: [0] ⇨ [5]
15: [1] ⇨ [5]

● While stopped (the image on the right is displayed on the screen), the title is designated. While playing, the chapter is designated.

◄ OK ► Frame-by-frame

While paused, press [◄] (◄❚❚) or [►] (❚❚►).
Each press shows the next frame.
● Press and hold to change in succession forward or backward.
● Press [►] (PLAY) to revert to normal playback speed.
● **BD-V** **AVCHD**: Forward direction [►] (❚❚►) only.

Screen Aspect

When black bars are shown at the top, bottom, left, and right sides of the screen, you can enlarge the image to fill the screen.
① Press [SUB MENU].
② Press [▲, ▼] to select "Screen Aspect" and press [OK].
③ Press [◄, ►] to select "Side cut" or "Zoom".
Normal: Normal output
Side cut: The black bars on the right and left sides of the 16:9 image disappear and the image is enlarged. Please note that the right and left sides of the image are cut off when the black bar is not displayed.
Zoom: The black bars on the top and bottom sides of the 4:3 image disappear and the image is enlarged. Please note that the top and bottom sides of the image are cut off when the black bar is not displayed.
● **BD-V** **DVD-V**: "Side cut" does not have any effect.
● When "TV Aspect" (⇨ 34) is set to "4:3 Pan & Scan" or "4:3 Letterbox", the "Zoom" effect is disabled.

STATUS Status messages

The status messages give you information about what is currently being played. Each time you press [STATUS], the information displayed will change.

e.g. **BD-V**   Type of disc   Play status

| BD-Video |
| Play |

No display

T: Title	Items change
C: Chapter	depending on the
	disc played.
PL: Playlist	

Elapsed time in the title

■ T1 C1 0:05.14
0:20.52

Current position   Total time
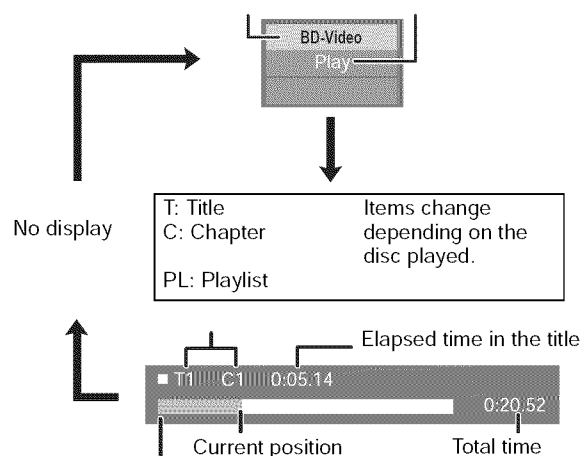
Depending on the kind of disc or the playback status, this display may not appear.

[AUDIO] **Changing audio during play**

BD-V **AVCHD** **DVD-V**

e.g. **DVD-V**

| Soundtrack | ↕ 1 ENG | 🔲 Digital 3/2.1ch |

English is selected.

You can change the audio channel number each time you press the button. This allows you to change the soundtrack language (⇨ 30, Soundtrack), etc.

DVD-VR **DivX** **MPEG2**

AudioLR→AudioL→Audio R

| DVD-RAM(VR) |
| Play |

"AudioLR" is selected — AudioLR

RE-MASTER 🔲 **Reproducing more natural audio** (Discs recorded at 48 kHz or less)

This feature gives you a more natural sound by adding higher frequency signals not recorded on the track.
Press [RE-MASTER] to select "Re-master 1", "Re-master 2" or "Re-master 3".

Select the one that you like best.

Setting	When playing LPCM sound Type of music	Other types of sound Effect level
Re-master 1	High tempo (e.g., pop and rock)	Light
Re-master 2	Various tempos (e.g., jazz)	Medium
Re-master 3	Low tempo (e.g., classical)	Strong
Off	Off	Off

- This function is effective for audio from the HDMI terminal or the DIGITAL AUDIO OUT terminal only when "Dolby D/Dolby D +/Dolby TrueHD" or "DTS/DTS-HD" is set to "PCM". (However, in this case, audio is output as 2ch from the DIGITAL AUDIO OUT terminal.)
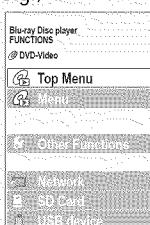
Showing FUNCTIONS menu

Some functions of this unit can be operated from the FUNCTIONS menu.

1 Press [FUNCTIONS].
- Items to be displayed may vary with the media.

2 Press [▲, ▼] to select the item and press [OK].
e.g.,

| Blu-ray Disc player FUNCTIONS |
| DVD-Video |
| 🔲 Top Menu |
| Menu |
| Other Functions |
| Network |
| SD Card |
| USB device |

- **Playback**
- **Top Menu**
- **Menu**
- **Viewing Picture**
- **Other Functions** "Playlists":
  You can play playlists created on DVD-VR. Press [▲, ▼, ◄, ►] to select the playlist and press [OK].
  "Setup" (⇨ 32)
  "Card Management" (⇨ 22)
- **Network** Displays the Home screen of the VIERA CAST (⇨ 27)
- **BD/DVD/CD** Switches to the disc drive.
- **SD card** Switches to the SD drive.
- **USB device** Switches to the USB drive.

Playing HD Video or SD Video AVCHD MPEG2

It is possible to playback the HD (High Definition) video recorded on the Panasonic High definition Video Camera on the DVD-RAM/R/ RW/R DL/+R/+RW/+R DL or SD card, and SD (Standard Definition) Video recorded on the Panasonic SD Video Camera on the SD card.
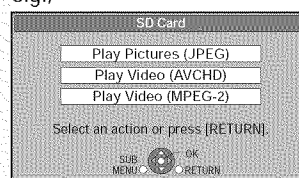
1 Insert a disc or SD card. (⇨ 19)
- "Video (AVCHD)" or "Video (MPEG-2)" screen is displayed.
- If a media containing data in different file formats is inserted, the file selection menu may be displayed.
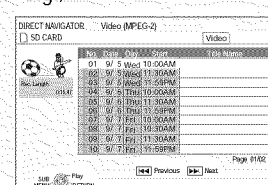
e.g.,

Press [▲, ▼] to select "Play Video (AVCHD)" or "Play Video (MPEG-2)" and press [OK].
e.g.,

| SD Card |
| Play Pictures (JPEG) |
| Play Video (AVCHD) |
| Play Video (MPEG-2) |
| Select an action or press [RETURN]. |

2 Press [▲, ▼, ◄, ►] to select the title and press [OK].
e.g.,

| DIRECT NAVIGATOR Video (MPEG-2) |
| SD CARD | Video |
| No Date AM/PM Start Title Name |
| 01 9/ 5 Wed 10:00AM |
| 02 9/ 5 Wed 11:30AM |
| 03 9/ 5 Wed 3:55PM |
| 04 9/ 6 Thu 10:00AM |
| 05 9/ 6 Thu 11:30AM |
| 06 9/ 6 Thu 3:55PM |
| 07 9/ 7 Fri 10:00AM |
| 08 9/ 7 Fri 10:30AM |
| 09 9/ 7 Fri 11:30AM |
| 10 9/ 7 Fri 11:59PM |
| Page 01/02 |

To return to the previous screen
Press [RETURN].
To exit the screen
Press [DIRECT NAVIGATOR].

To switch from other menus to AVCHD or MPEG2 menu
(If the media contains data in different file formats)
1) Press [FUNCTIONS].
2) Press [▲, ▼] to select "Menu" and press [OK].
3) Press [▲, ▼] to select "Play Video (AVCHD)" or "Play Video (MPEG-2)" and press [OK].

- It may pause for a few seconds on the break of images when editing such as partial deletion is performed.
- High definition video (transfer rate of 18 Mbps or faster) cannot be played back correctly if it was recorded on a DVD compatible to double speed or slower.

Playback

21

Enjoying BD-Live or BONUSVIEW in BD-Video BD-V

What is BONUSVIEW?
BONUSVIEW allows you to enjoy functions such as picture-in-picture or secondary audio etc., with BD-Video supporting BD-ROM Profile 1 version 1.1/ Final Standard Profile.
What is BD-Live?
In addition to the BONUSVIEW function, BD-Video supporting BD-ROM Profile 2 that has a network extension function allows you to enjoy more functions such as subtitles, exclusive images and online games by connecting this unit to the Internet. In order to use the Internet feature, you must have this unit connected to a broadband network (⇨ 16).

● These discs may not be on sale in certain regions.
● The usable functions and the operating method may vary with each disc, please refer to the instructions on the disc and/or visit their website.

Playing secondary video (picture-in-picture) and secondary audio

To turn on/off secondary video
Press [PIP].

To turn on/off secondary audio
Set "Soundtrack" in "Secondary Video" to "On" or "Off" (⇨ 30, Press [DISPLAY] ⇨ "Disc" ⇨ "Signal Type")
The secondary audio is played.

Secondary video
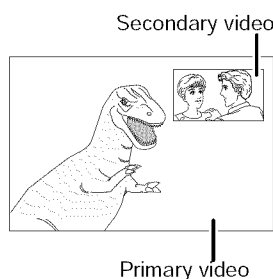
Primary video

● During search/slow-motion or frame-by-frame, only the primary video is displayed.
● When "BD-Video Secondary Audio" in "Digital Audio Output" is set to "Off", secondary audio will not be played even if you set "Soundtrack" in "Secondary Video" to "On". Please check that "BD-Video Secondary Audio" is set to "On" (⇨ 33).

Enjoying BD-Live discs with Internet

Many BD-Live compatible discs require content to be downloaded onto an SD card (⇨ 50, Local storage) in order to access the available BD-Live features.
● An SD card with 1 GB or more of free space (SD Speed Class Rating 2 or higher) needs to be inserted prior to inserting the BD-Live compatible disc.

Some BD-Live content available on the Blu-ray discs may require an Internet account to be created in order to access the BD-Live content. Follow the screen display or instruction manual of the disc for information on acquiring an account.

Preparation
● Connect to the network. (⇨ 16)

❶ Insert an SD card (⇨ 19).
● If the SD card menu screen is displayed, press [DRIVE SELECT] on the remote control, select "BD/DVD/CD".
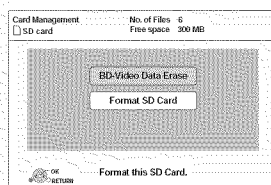
❷ Insert the disc (⇨ 19).
● For operation method, refer to the instructions on the disc.

To use the above functions, it is recommended that you format the card on this unit. Format the card using the following procedures.

Formatting SD cards/Deleting data
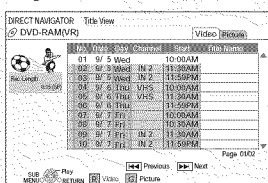● If the SD card you use is formatted, all data on the card will be erased. It cannot be recovered.

1) Insert an SD card (⇨ 19).
2) Press [FUNCTIONS].
3) Press [▲, ▼] to select "Other Functions" and press [OK].
4) Press [▲, ▼] to select "Card Management" and press [OK].
5) Press [▲, ▼] to select "BD-Video Data Erase" or "Format SD Card" and press [OK].
6) Press [◄, ►] to select "Yes" and press [OK].
7) Press [◄, ►] to select "Start" and press [OK].

Card Management	No. of Files 6
SD card	Free space 300 MB

BD-Video Data Erase

Format SD Card

OK   Format this SD Card.
RETURN

● If you experience any problems, first, try formatting the SD card in this unit.
● A message may be displayed when SD card doesn't have enough storage capacity for BD-Live content. Please make space available on the current SD card, or insert another SD card.
● While using this feature, do not remove the SD card. Doing so will cause playback to stop.
● The unit must be connected to the Internet and set up (⇨ 17) to use the BD-Live functions. "BD-Live Internet Access" may need to be changed for certain discs (⇨ 32).
● When discs supporting BD-Live are played back, the player or disc IDs may be sent to the content provider via the Internet. You can restrict Internet access (⇨ 32).
● The unit is connected to the Internet when BD-Live functions are used, generating communication charges.
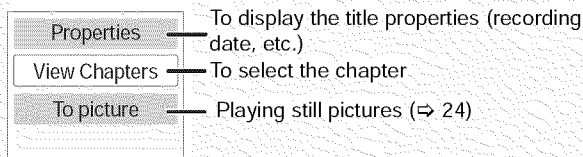
Chapter playback [DVD-VR]

❶ Insert a disc (⇨ 19).

- "Title View" screen is displayed. e.g.,
  e.g.,

❷ Press [▲, ▼] to select the title and press [SUB MENU].

❸ Press [▲, ▼] to select "View Chapters" and press [OK].

Properties	To display the title properties (recording date, etc.)
View Chapters	To select the chapter
To picture	Playing still pictures (⇨ 24)

❹ Press [◄, ►] to select the chapter and press [OK].

e.g.,

Playing music [CD][MP3]
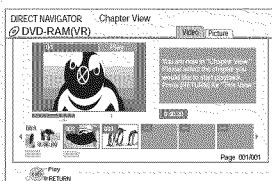
You can play generally available a music CD or MP3 files recorded onto a DVD-R/R DL, CD-R/RW and USB device.
(About structure of folders ⇨ 39, "Structure of folders that can be played in this unit")

❶ Insert a disc or USB device. (⇨ 19)

- If the media containing data in different file formats is inserted, the file selection menu may be displayed.
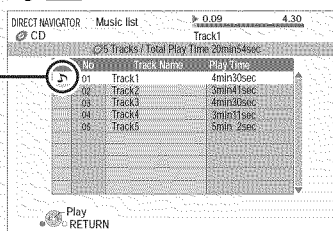 Press [▲, ▼] to select "Play Music (MP3)" and press [OK].

  e.g.
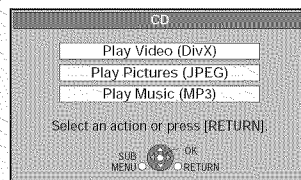
❷ Press [▲, ▼] to select the track and press [OK].

Play starts on the selected track.
- [CD] "TR" and the number of that track are displayed on the unit as it plays.

  e.g. [CD]

" 🎵 " indicates the track currently playing.

To switch from other menus to MP3 menu
(If the media contains data in different file formats)
1) Press [FUNCTIONS].
2) Press [▲, ▼] to select "Menu" and press [OK].
3) Press [▲, ▼] to select "Play Music (MP3)" and press [OK].

- You can use search and skip functions. (⇨ 20)
- When the "Screen Saver Function" is set to "On" (⇨ 33), the screen switches to Screen Saver mode if there is no operation for 10 minutes after starting playback. (Playback continues.)

Playing a track in another folder [MP3]

❶ While the "Music list" is displayed
Press [SUB MENU].
❷ Press [▲, ▼] to select "Select Folder" and press [OK].
❸ Press [▲, ▼] to select a folder and press [OK].

e.g.
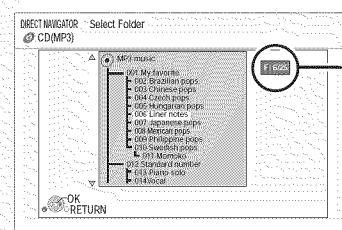
Selected folder No. / Total folders
If the folder has no track, "– –" is displayed as folder number.

- You cannot select folders that contain no compatible tracks.

To return to the previous screen
Press [RETURN].

Playback

Playing still pictures [JPEG]

Playback of the BD-RE, DVD-RAM/R/R DL or CD-R/RW with still pictures recorded. This unit can also play still pictures recorded on the SD card or USB memory. In addition, you can also connect Panasonic digital camera by USB connection.
(About structure of folders ⇨ 39, "Structure of folders that can be played in this unit")

Connecting a USB device

Panasonic digital camera, etc.
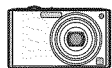
Connect to USB terminal
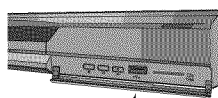
USB connection cable
Specified cable such as accessory of the USB equipment

- Setup screen may be displayed on equipment connected with the USB. Set it to the mode for connecting to a PC.
- Also read the operating instructions of the connected equipment for details of connection and setup.
- Do not disconnect the USB connection cable while recognizing.

❶ Insert a disc, SD card or USB device. (⇨ 19)

BD-RE, DVD-RAM
"Album View" screen is displayed.
- When the "Title View" screen is displayed, press the [G] button to switch to the "Album View" screen.
- If the DVD-RAM containing both JPEG and AVCHD format is inserted, the file selection menu may be displayed.

DVD-R/R DL, CD-R/RW, SD card, USB device   e.g.,
- If the media containing data in different file formats is inserted, the file selection menu may be displayed.

Press [▲, ▼] to select "Play Picture (JPEG)" and press [OK].
e.g.

> USB device
> Play Video (DivX)
> Play Pictures (JPEG)
> Play Music (MP3)
> Select an action or press [RETURN].

"Picture View" screen is displayed.
⇨ Go to step ❸

❷ Press [▲, ▼, ◄, ►] to select the album and press [OK].
e.g.,
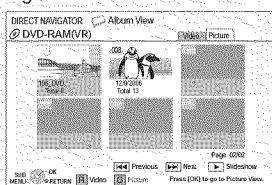
❸ Press [▲, ▼, ◄, ►] to select the still picture and press [OK].
e.g.,
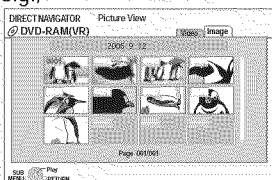
- Press [◄, ►] to display the previous or next still picture.
- Press [◄◄, ►►] to show other pages.

To return to the previous screen
Press [RETURN].

To exit the screen
Press [DIRECT NAVIGATOR].

DVD-RAM/R/R DL, CD-R/RW, SD card, USB device
To switch from other menus to JPEG menu
(If the media contains data in different file formats)
1) Press [FUNCTIONS].
2) Press [▲, ▼] to select "Menu" and press [OK].
3) Press [▲, ▼] to select "Play Picture (JPEG)" and press [OK].

Useful functions during still picture play

Start Slideshow

You can display still pictures one by one at a constant interval.
BD-RE, DVD-RAM

❶ While the "Album View" screen is displayed
Press [▲, ▼, ◄, ►] to select the album and press [SUB MENU].
❷ Press [▲, ▼] to select "Start Slideshow" and press [OK].

- You can also start slideshow by pressing [►] (PLAY) after selecting the album.

DVD-R/R DL, CD-R/RW, SD card, USB device

❶ While the "Picture View" screen is displayed
Press [SUB MENU].
❷ Press [▲, ▼] to select "Start Slideshow" and press [OK].

To stop slideshow
Press [■].

Slideshow settings

❶ Press [▲, ▼] to select "Slideshow Settings" and press [OK].

❷ To change the display interval

Press [▲, ▼] to select "Display Interval" and press [◄, ►] to select the interval ("Long", "Normal" or "Short").

● When a still picture with large number of pixels is played, the display interval may become longer. Even if the setting is changed, the display interval may not become shorter.

To set display method

Press [▲, ▼] to select "Transition Effect" and press [◄, ►] to select "Fade", "Motion" and "Random".

"Fade": Pictures are changed by fading out and fading in.
"Motion": Pictures are changed by fading out and fading in, while it is enlarged, reduced, or moved up or down.
"Random": In addition to the "Motion", pictures are changed by various methods.

To repeat slideshow

Press [▲, ▼] to select "Repeat Play" and press [◄, ►] to select "On" or "Off".

To listen to a Background Music

The MP3 that is recorded on the USB device or the music CD can be played back as Background Music during the slideshow.
Press [▲, ▼] to select "Soundtrack" and press [◄, ►] to select "On" or "Off".

● You cannot search or skip the music.
● When the slideshow stops, the playback of the music also stops.
● When both the music CD and the USB device with MP3 recorded is inserted to this unit, the music CD has a priority to be played back as Background Music.

To select a folder

A folder to playback can be selected when a USB device with MP3 recorded is connected to this unit.
Press [▲, ▼] to select "Soundtrack Folder" and press [OK], and press [◄, ►] to select folder.

❸ Press [▲, ▼, ◄, ►] to select "Set" and press [OK].

Rotate

❶ While playing (except for slideshow)
Press [SUB MENU].

❷ Press [▲, ▼] to select "Rotate Right" or "Rotate Left" and press [OK].

● The rotation information will be stored until the unit is turned off or the media is removed.

Zoom out

This function is only available for small-sized still pictures.

❶ While playing (except for slideshow)
Press [SUB MENU].

❷ Press [▲, ▼] to select "Zoom out" and press [OK].

● To cancel "Zoom out", press [▲, ▼] to select "Zoom in" in step ❷ and press [OK].
● The zoom-out information will not be stored.

To select the still pictures in another folder

BD-RE, DVD-RAM
To switch to another higher folder
(Only if there is a multiple number of higher folders recognizable)

❶ While the "Album View" screen is displayed
Press [SUB MENU].

❷ Press [▲, ▼] to select "Select Root folder" and press [OK].

❸ Press [◄, ►] to select the higher folder and press [OK].
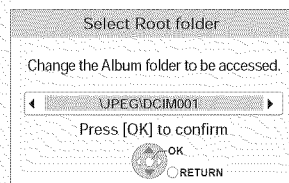
DVD-R/R DL, CD-R/RW

❶ While the "Picture View" screen is displayed
Press [SUB MENU].

❷ Press [▲, ▼] to select "Select Folder" and press [OK].

❸ Press [▲, ▼] to select a folder and press [OK].

e.g.,
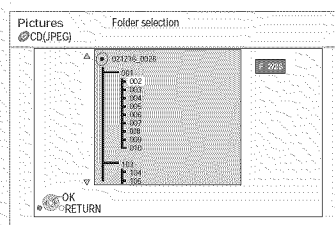
To show the picture properties

While playing
Press [STATUS] twice.

e.g. JPEG on DVD-RAM

To exit, press [STATUS].

Playing DivX® videos DivX BD80
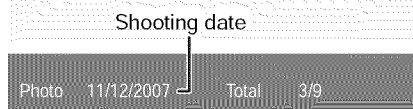
ABOUT DIVX VIDEO:
DivX® is a digital video format created by DivX, Inc. This is an official DivX Certified device that plays DivX video.
You can play DVD-R/R DL, CD-R/RW discs and a USB device which contain DivX video contents that have been recorded on a personal computer.
(About structure of folders ⇨ 39, "Structure of folders that can be played in this unit")
● Because DivX format can use many different codecs, there is no guarantee that all DivX files will play. (⇨ 38, "About MP3/JPEG/DivX files")

❶ Insert a disc or USB device. (⇨ 19)

● If the media containing data in different file formats is inserted, the file selection menu may be displayed. Press [▲, ▼] to select "Play Video (DivX)" and press [OK].

e.g.

```
                    CD
          Play Video (DivX)
          Play Pictures (JPEG)
          Play Music (MP3)

     Select an action or press [RETURN].

           SUB      OK
          MENU      RETURN
```

❷ Press [▲, ▼] to select the title and press [OK].

Play starts on the selected title.

e.g.

```
DIRECT NAVIGATOR
CD (DivX)
                        DivX
  No.         Name of Title
  001    ABC.divx



  SUB   Play   From SUB MENU you can select a folder.   Page 01/01
  MENU  RETURN
```

● The picture sizes set for recording may prevent the unit from showing pictures in the proper aspect. You may be able to adjust the aspect through the TV.
● Successive play is not possible.
● You can use search and skip functions. (⇨ 20)
● Press [◄◄, ►►|] to show other pages.

DVD-R/R DL, CD-R/RW, USB device
To switch from other menus to DivX menu
(If the media contains data in different file formats)
1) Press [FUNCTIONS].
2) Press [▲, ▼] to select "Menu" and press [OK].
3) Press [▲, ▼] to select "Play Video (DivX)" and press [OK].

Playing a title in another folder

❶ While the "DIRECT NAVIGATOR" is displayed
Press [SUB MENU].
❷ Press [▲, ▼] to select "Select Folder" and press [OK].
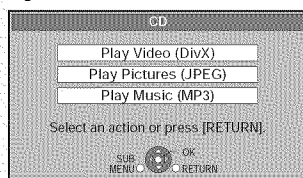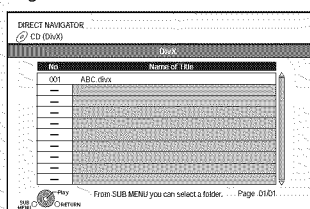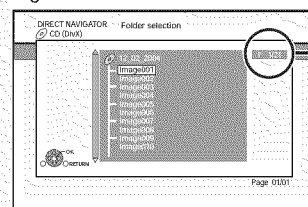## ❸ Press [▲, ▼] to select a folder and press [OK].

e.g.

```
DIRECT NAVIGATOR    Folder selection
CD (DivX)
           12-30-2004
           [Image001]
           [Image002]
           [Image003]
           [Image004]
           [Image005]
           [Image006]
           [Image007]
           [Image008]
           [Image009]
           [Image010]
    OK
    RETURN
                                    Page 01/01
```
**Selected folder No. /
Total folders**
If the folder has no title,
"– –" is displayed as folder number.

● You cannot select folders that contain no compatible files.
To return to the previous screen
Press [RETURN].

Regarding DivX VOD content
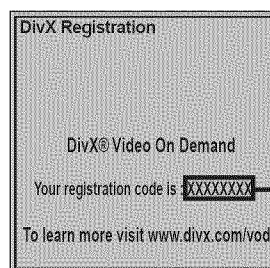
ABOUT DIVX VIDEO-ON-DEMAND:
This DivX® Certified device must be registered in order to play DivX Video-on-Demand (VOD) content.
First generate the DivX VOD registration code for your device and submit it during the registration process.
[Important: DivX VOD content is protected by a DivX DRM (Digital Rights Management) system that restricts playback to registered DivX Certified devices. If you try to play DivX VOD content not authorized for your device, the message "Authorization Error" will be displayed and your content will not play.] Learn more at www.divx.com/vod.

Display the unit's registration code.
(⇨ 36, "DivX Registration" in "Others")

```
DivX Registration




         DivX® Video On Demand

  Your registration code is: XXXXXXXX      8 alphanumeric characters

  To learn more visit www.divx.com/vod
```

● After playing DivX VOD content for the first time, another registration code is then displayed in "DivX Registration". Do not use this registration code to purchase DivX VOD content. If you use this code to purchase DivX VOD content, and then play the content on this unit, you will no longer be able to play any content that you purchased using the previous code.
● If you purchase DivX VOD content using a registration code different from this unit's code, you will not be able to play this content. ("Authorization Error" is displayed.)

Regarding DivX VOD content that can only be played a set number of times
Some DivX VOD content can only be played a set number of times. When you play this content, the remaining number of plays is displayed. You cannot play this content when the number of remaining plays is zero. ("Rental Expired." is displayed.)
When playing this content
● The number of remaining plays is reduced by one if
– you press [⏻ POWER].
– you press [■].
– you press [DIRECT NAVIGATOR].
– you press [◄◄] or [◄◄, ►►] etc. and arrive at another content or the start of the content being played.
– you press [DRIVE SELECT] to change the drive.
● Resume functions do not work.

Displaying subtitles text

You can display subtitles text onto the DivX video disc on this unit. This function has no relation to the subtitles specified in DivX standard specifications and has no clear standard. The operation might be different or it may not operate properly depending on the way the file was made or the state of this unit (playing, stopped, etc.).

❶ While playing
Press [DISPLAY].

❷ **Press [▲, ▼] to select "Disc" and press [▶].**

❸ **Press [▲, ▼] to select "Subtitle" and press [▶].**

❹ **Press [▲, ▼] to select "On" and press [▶].**

❺ **Press [▲, ▼] to select "Text".**

● DivX video files that do not display "Text" do not contain subtitles text.
Subtitles text cannot be displayed.
● If the subtitles text are not displayed correctly, try changing the language settings. (⇨ 32)

To exit the screen
Press [DISPLAY].

Enjoying VIERA CAST™

You can access a selection of Internet services from the Home screen with VIERA CAST, for example YouTube, Picasa Web Albums. (Current as of December 2008)
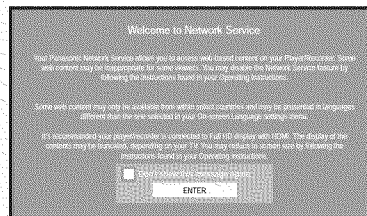● VIERA CAST requires a broadband Internet connection. Dial-up Internet connections cannot be used.
Preparation
● Network connection (⇨ 16)
● Network setting (⇨ 17)

❶ **Press [VIERA CAST].**
● Message is displayed. Please read these instructions carefully and then press [OK] to start VIERA CAST function.
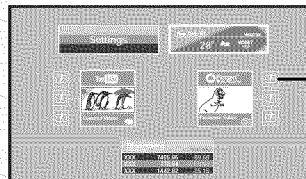
Images are for illustration purposes, message may change without notice.

❷ **Press [▲, ▼, ◄, ►] to select the item and press [OK].**
● You can operate VIERA CAST using the following buttons on the unit's remote control.
[▲, ▼, ◄, ►], [OK], [RETURN], [SUB MENU], colored buttons and numbered buttons.
● To access more features on YouTube or Picasa Web Albums site, enter your user ID and password that you have previously set up with these sites through the Internet on your PC. However, not all features may be accessible through VIERA CAST.

VIERA CAST Home screen;

After you access YouTube or Picasa Web Albums from the VIERA CAST Home screen and add your favorite videos or albums to VIERA CAST, you can choose them easily from the Home screen.

Images are for illustration purpose, contents may change without notice.

Regarding "Settings"
Set VIERA CAST Home screen.
● **My Account:** You can remove your account from the unit.
● **Lock:** Password can be used to lock YouTube and Picasa Web Albums.

● **Notices**

● Depending on the usage conditions, it may take a while to load the page.
● The connection to the Internet may take time or the Internet may not be connected depending on the connection environment.
● The unit is connected to the Internet when VIERA CAST is used, generating communication charges where applicable.

To return to VIERA CAST Home screen
Press [VIERA CAST].

To exit from VIERA CAST
Press [FUNCTIONS] or [TOP MENU/DIRECT NAVIGATOR], then press [RETURN] to cancel the menu.

● Set the "Network Lock" to "On" to restrict using VIERA CAST. (⇨ 35)
● If the audio is distorted while using the VIERA CAST feature set the "Audio Auto Gain Control" to "Off" (⇨ 35)
● When the entire picture cannot be displayed on the screen set the "Reduce to Screen Size" to "On" (⇨ 35)
● Set the "On-screen Language", to switch the language for Home screen. (⇨ 33)
● Set the "Time Zone" or "DST" when wrong time is displayed on the screen. (⇨ 35)

● VIERA CAST™ home screen is subject to change without notice.
● The services through VIERA CAST™ are operated by their respective service providers, and service may be discontinued either temporarily or permanently without notice. Therefore, Panasonic will make no warranty for the content or the continuity of the services.
● All features of websites or content of the service may not be available.
● Some content may be inappropriate for some viewers.
● Some content may only be available for specific countries and may be presented in specific languages.

Linked operations with the TV (VIERA Link™ "HDAVI Control™")

What is VIERA Link "HDAVI Control"?

VIERA Link™ is a new name for EZ Sync™.
VIERA Link "HDAVI Control" is a convenient function that offers linked operations of this unit, and a Panasonic TV (VIERA) or amplifier/receiver under "HDAVI Control".
You can use this function by connecting the equipment with an HDMI cable. See the operating instructions for connected equipment for operational details.
- VIERA Link "HDAVI Control", based on the control functions provided by HDMI which is an industry standard known as HDMI CEC (Consumer Electronics Control), is a unique function that we have developed and added. As such, its operation with other manufacturers' equipment that supports HDMI CEC cannot be guaranteed.
- **This unit supports "HDAVI Control 4" function.**
  "HDAVI Control 4" is the newest standard (current as of December, 2008) for Panasonic's HDAVI Control compatible equipment. This standard is compatible with Panasonic's conventional HDAVI equipment.
- Please refer to individual manuals for other manufacturers' equipment supporting VIERA Link function.

Preparation
1) Connect this unit to your TV or amplifier/receiver with an HDMI cable (⇨ 11–12).
2) Set "VIERA Link" to "On" (⇨ 34). (The default setting is "On".)
3) Set the "HDAVI Control" operations on the connected equipment (e.g., TV).
4) Turn on all "HDAVI Control" compatible equipment and select this unit's input channel on the connected TV so that the "HDAVI Control" function works properly.
   Also when the connection or settings are changed, repeat this procedure.

Automatic input switching

When the following operations are performed, the television will automatically switch the input channel and display the corresponding action.
– When play starts on the unit
– When an action that uses the display screen is performed
  (e.g., Direct Navigator screen)

Power on link

When the television is off and the following operations are performed, the television will automatically turn on and display the corresponding action.
– When play starts on the unit
– When an action that uses the display screen is performed (e.g., Direct Navigator screen)

Power off link

All connected equipment compatible with "HDAVI Control", including this unit, automatically turns off when you switch the television off.
- This unit automatically turns off even during playback or any other operation.

Stand-by power save
Auto power stand-by

Stand-by power save and Auto power stand-by responsibly manage your systems power consumption
These functions are available with the TV that supports "HDAVI Control 4".
About the Stand-by power save function
  It is possible to minimize the stand-by power of this unit by the Power off link, even if the "Quick Start" of this unit is set to "On" (⇨ 35).
  - "Stand-by power save" setting is required to be activated on the TV.
  - When turning this unit on or off without using Power off link function, it is impossible to minimize the stand-by power of this unit.
About the Auto power stand-by function
  If connected with a TV (VIERA) with the "Auto power stand-by" setting activated on the TV, when switching the TV input, the unit will be automatically turned to standby. For details please read the operating instructions of the TV.

- When [▶] (PLAY) is pressed on this unit for "Automatic input switching" or "Power on link", the playback image is not immediately displayed on the screen and it may not be possible to watch the contents from where playback started.
  In this case, press [◄◄] or [◄◄] to go back to where playback started.

Playing music continuously even after turning off power to the television
  When the unit is connected to a Panasonic TV (VIERA) that supports HDAVI Control 2 or later and an amplifier/receiver supports VIERA Link, the unit is turned off if the power to the television is turned off, since "Power off link" (⇨ above) operates.
  The following operations make it possible to keep the power of the unit on and to play music continuously.
  ① While playing music
     Press [SUB MENU].
  ② Press [▲, ▼] to select "TV Power" and press [OK].
- Sound may be discontinued for several seconds when the power to the television is turned off.
- If the operation mentioned above is executed while audio is output from the television, the sound may not be output from the amplifier/receiver. It is recommended to set the amplifier/receiver beforehand so that audio will be output from the amplifier/receiver.

Easy control only with VIERA remote control

If you connect this unit to the TV that supports "HDAVI Control 2" or later with an HDMI cable, you can enjoy using more convenient functions.
You can operate this unit using buttons on the TV remote control.
The buttons that you can use for this unit vary depending on the TV. For details, refer to the operating instructions of the TV.
Use the remote control supplied with this unit if you cannot operate this unit using buttons on the TV remote control.
● The operation of this unit may be interrupted when you press incompatible buttons on the TV remote control.

Using the FUNCTIONS menu to operate this unit

By using the TV remote control, you can play media using the FUNCTIONS menu.

❶ Press the button for VIERA Link on the remote control.

❷ Select the player.

● The FUNCTIONS menu is displayed.

e.g.,
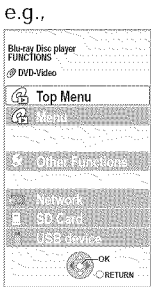
Using the sub menu to operate this unit

By using the TV remote control, you can play discs using the "Control Panel" and display the Top Menu (for BD-Video and DVD-Video) or Pop-up Menu (for BD-Video).

❶ Press [SUB MENU].

● This can also be displayed by using the VIERA menu screen.
● You cannot use the sub menu while the Top Menu for BD-Video or DVD-Video is displayed.

❷ Select an item, then press [OK].

e.g.,
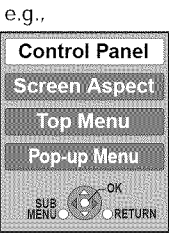
Control Panel	Control Panel is displayed. Follow the indications on the screen.
Screen Aspect	(⇨ 20)
Top Menu BD-V AVCHD DVD-V	Top menu is displayed.
Menu DVD-V	Menu is displayed.
Pop-up Menu BD-V	Pop-up menu is displayed.
Rotate Right JPEG	Rotate the still picture.
Rotate Left JPEG	
Zoom in JPEG	Enlarge or reduce the still picture.
Zoom out JPEG	

When you want to leave the TV on and set only this unit to standby mode
Press [⏻ POWER] on this unit's remote control and set to standby mode.

When not using "HDAVI Control"
Set "VIERA Link" in the Setup menu to "Off". (⇨ 34)

Playback

29

Changing settings with the on-screen menu

On-screen menu operations

1 **Press [DISPLAY].**
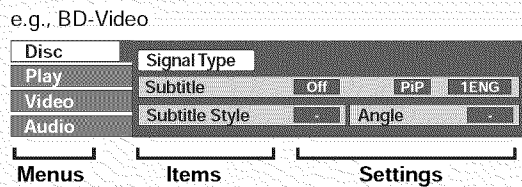2 **Press [▲, ▼] to select the menu and press [▶].**
3 **Press [▲, ▼] to select the item and press [▶].**
4 **Press [▲, ▼] to select the setting.**

e.g., BD-Video

Disc	Signal Type		
Play	Subtitle	Off	PiP	1ENG
Video	Subtitle Style	·	Angle	·
Audio		

Menus — Items — Settings

● Depending on the condition of the unit (playing, stopped, etc.) and media contents, there may be some items that you cannot select or change.

● Some items can be changed by pressing [OK].

To exit the on-screen menu
Press [DISPLAY].

What you can change with the on-screen menu

Menus	Items	Settings and details
Disc	Signal Type	**BD-V** ●Primary Video Video: The original video recording method appears. (⇨ below, Video attribute) Soundtrack: Select the type of audio or language. (⇨ below, Language, Audio attribute) ●Secondary Video Video: Select on/off of images. The original video recording method appears. (⇨ below, Video attribute) Soundtrack: Select on/off of audio and the language. (⇨ below, Language, Audio attribute)
	Video	**AVCHD** The original video recording method appears. (⇨ below, Video attribute)
	Soundtrack	**AVCHD DVD-V** Select the type of audio or language. (⇨ below, Language, Audio attribute) **DVD-VR MPEG2** The audio attributes appear. (⇨ below, Audio attribute) **DivX** Select the soundtrack number. ●Soundtrack numbers are displayed even when there is only one audio type.
	Subtitle	**BD-V AVCHD DVD-V** Turn the subtitle on/off and select the language. (⇨ below, Language) **DVD-VR** (Only discs that contain subtitle on/off information) Turn the subtitle on/off. **DivX** Turn the subtitle on/off and select "Text" or the subtitle number. ●Subtitle number is displayed even if there are not multiple subtitles.
	Subtitle Style	**BD-V** Select the subtitle style.
	Audio channel	**DVD-VR DivX MPEG2** (⇨ 21, Changing audio during play)
	Angle	**BD-V DVD-V** Select the number of the angle.

Some items may be changed only on the disc specific menu. (⇨ 19)

Language

ENG:	English	SVE:	Swedish	CHI:	Chinese	CES:	Czech
FRA:	French	NOR:	Norwegian	KOR:	Korean	SLK:	Slovak
DEU:	German	DAN:	Danish	MAL:	Malay	HUN:	Hungarian
ITA:	Italian	POR:	Portuguese	VIE:	Vietnamese	FIN:	Finnish
ESP:	Spanish	RUS:	Russian	THA:	Thai	✳:	Others
NLD:	Dutch	JPN:	Japanese	POL:	Polish		

Audio attribute

LPCM/◻◻Digital/◻◻Digital+/◻◻TrueHD/DTS/DTS 96/DTS-HD HI RES/DTS-HD MSTR/MPEG	Signal type
ch (channel)	Number of channels
k (kHz)	Sampling frequency
b (bit)	Number of bits
bps (bit per second)	Transfer rate of bit

Video attribute

MPEG-2/MPEG-4 AVC/VC-1	Video recording method
480/576/720/1080	Video Format
24p/50i/60i/50p/60p	Video Frame rate
YCbCr4:2:2/YCbCr4:4:4/RGB	Color Space
bps (bit per second)	Transfer rate of bit

RQT9378

Menus	Items	Settings and details
Play	**Repeat Play**	(Only when the elapsed time is being displayed on the unit's display.) Select the item which you want to repeat. The items displayed differ depending on the type of media. ●All tracks All tracks ●Chapter Chapter ●Playlists Playlist ●Title Title ●One track Track ●Off Select "Off" to cancel.
	Random	**CD** **MP3** While playing, press [▲, ▼] to select "On". Random playback starts from the next track. ●On ●Off
	Playback Information Window BD80	**BD-V** **DVD-V** Displays audio/video attribute information of disc (⊘), settings status of "Digital Audio Output"(⇨ 33) (☒) and HDMI output information (HDMI). (⇨ 30 Audio attribute, Video attribute) – Depending on the disc, display method may be different. – The audio attribute information will be displayed following the "Digital Audio Output" settings. (⇨ 8) Press [RETURN] to exit.
Video	**Picture**	**BD-V** **AVCHD** **DVD-VR** **DVD-V** **DivX** **MPEG2** Select the picture quality mode during play. ●Normal: Default setting ●Soft: Soft picture with smoother video ●Fine: Details are sharper ●Cinema: Mellows movies, enhances detail in dark scenes. ●User: You can make further adjustments. (⇨ below)
		① Press [►] to select "Picture Adjustment" and press [OK]. ② Select the item using [▲, ▼] and adjust it with [◄, ►]. Contrast: Increases the contrast between light and dark parts of the picture (−7 to +7). Brightness: Brightens the picture (0 to +15). Sharpness: Adjusts the sharpness of the edges of the horizontal lines (−6 to +6). Color: Adjusts the shade of the picture's color (−7 to +7). Gamma: Adjusts the brightness of dark portions of the screen (0 to +5). 3D NR: Reduces the rough noise in the background to give a greater feeling of depth (0 to +4). When "24p Output" is set to "On", this function may not operate. (⇨ 34) Integrated NR: Smooths block noise and reduces the smudging that appears around contrasting sections of the picture (0 to +3).
	Progressive	Select the method of conversion for progressive output to suit the type of material being played (⇨ 50, Film and video). ●Auto: Automatically detects the film and video content, and appropriately converts it. ●Video: Select when using "Auto", and the content is distorted.
	24p DVD-V	●On ●Off Only when you have selected "On" in "24p Output" (⇨ 34)
Audio	**Sound Effects**[*1, 2]	●Off
		Re-master (⇨ 21) ●Re-master 1 ●Re-master 2 ●Re-master 3
		V. Surround **BD-V** **AVCHD** **DVD-VR** **DVD-V** **DivX** **MPEG2** (2 channels or more only) Enjoy a surround-like effect if you are using two front speakers only. – Turn V. Surround off if it causes distortion. – Do not use in combination with surround effects on other equipment. – V. Surround does not work for bilingual recordings. ●V. Surround 1 ●V. Surround 2
		Night Surround To enjoy a movie with powerful sound even when the volume is kept low at night, the audio is set in such a way that it can be heard easily. ●Night Surround
	Dialog Enhancer[*1]	**BD-V** **AVCHD** **DVD-VR** **DVD-V** **DivX** **MPEG2** (3 channels or more only, including a center channel) The volume of the center channel is raised to make dialog easier to hear. ●On ●Off
	High Clarity Sound BD80	When the analog video terminal is not being used, the electrical current that flows through the analog video circuit can be stopped. This prevents adverse effects on the audio signals and produces clearer sound. Use this when outputting image via HDMI terminal. Analog image will not be output via COMPONENT VIDEO OUT terminal or VIDEO OUT terminal. ●On ●Off Only when you have selected "Enable" in "High Clarity Sound" (⇨ 33)

[*1] This function is effective for audio from the HDMI terminal or the DIGITAL AUDIO OUT terminal only when "Dolby D/Dolby D +/Dolby TrueHD" or "DTS/DTS-HD" is set to "PCM". (However, in this case, audio is output as 2ch from the DIGITAL AUDIO OUT terminal.)
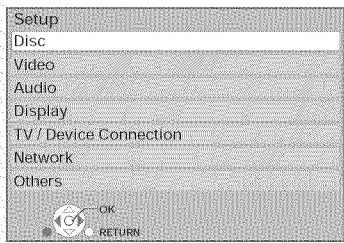[*2] Not every function can be set individually.

Settings

Changing the unit's settings

Change the unit's settings if necessary. The settings remain intact even if you switch the unit to standby.

Setup menu operations

1 **While stopped**
   Press [SETUP].
2 **Press [▲, ▼] to select the menu and press [OK].**
3 **Press [▲, ▼] to select the item and press [OK].**
   If there are any other items, repeat these steps.
4 **Press [▲, ▼, ◄, ►] to select the option and press [OK].**

| Setup |
| Disc |
| Video |
| Audio |
| Display |
| TV / Device Connection |
| Network |
| Others |

● There may be differences in operation methods. If this happens, follow the on-screen instructions for the operation.

To return to the previous screen
Press [RETURN].

To exit the screen
Press [SETUP].

Summary of settings

Underlined items are the factory presets.

"Disc"

DVD-Video Ratings
Set a ratings level to
limit DVD-Video play.
	Follow the on-screen instructions. Enter a 4-digit password with the numbered buttons when the password screen is shown. It will be the common password for "DVD-Video Ratings", "BD-Video Ratings" and "Network Lock".
	●**Do not forget your password.**
		●8 No Limit: All DVD-Video can be played.
		●1 to 7: Prohibits play of DVD-Video with corresponding
		   ratings recorded on them.
		●0 Lock All: Prohibits play of all DVD-Video.
		Changing settings (When level 0 to 7 is selected)
		   ●Unlock Player ●Change Password
		   ●Change Level ●Temporary Unlock

BD-Video Ratings
Set an age limit of
BD-Video play.
		●No Limit: All BD-Video can be played.
		●0 to 254 year(s): Prohibits play of BD-Video with corresponding
		   ratings recorded on them.
		Changing settings (When 0 to 254 year(s) is selected)
		   ●Unlock Player ●Change Password
		   ●Change Level ●Temporary Unlock

Audio Language	Choose the language for audio, subtitle and disc menus. **BD-V** **DVD-V**	●English ●French ●Spanish ●Original: The original language of each disc will be selected. ●Other ✳✳✳✳

Subtitle
Language
	●Some discs start in a certain language despite any changes you make here.
	●When the selected language is not available on the disc, the default language is played. There are discs where you can only switch the language from the menu screen. (⇨ 19)
	●Enter a code (⇨ 36) with the numbered buttons when you select "Other ✳✳✳✳".
		●Automatic:
		   If the language selected for "Audio Language" is not available,
		   subtitles of that language will automatically appear if available on that
		   disc.
		●English ●French ●Spanish ●Other ✳✳✳✳

Menu Language		●English ●French ●Spanish ●Other ✳✳✳✳

BD-Live Internet Access **BD-V** (⇨ 22)
You can restrict Internet access when BD-Live functions are used.
		●Allow (ALL): Internet access is permitted for all BD-Live contents.
		●Allow (Limited): Internet access is permitted only for BD-Live
		   contents which have content owner certificates.
		   Internet access is prohibited for all BD-Live
		   contents without a certificate.
		●Prohibit: Internet access is prohibited for all BD-Live contents.

DivX Subtitle Text **DivX** Select a suitable item according to the language used for DivX subtitles text (⇨ 27). ● This item is displayed only when pressing [SETUP] after playing back a file.		●Latin1 English, German, Spanish, etc. ●Latin2 Polish, Czech, Hungarian, etc. ●Cyrillic Russian, etc.

"Video"

Still Mode (paused video) **BD-V** **AVCHD** **DVD-V**
Select the type of picture shown when you pause playback
(⇨ 50, Frames and fields).
	●Auto
	●Field: Select if jittering occurs when "Auto" is selected. (The picture
	   is coarser.)
	●Frame: Select if small text or fine patterns cannot be seen clearly
	   when "Auto" is selected. (The picture is clearer and finer.)

Seamless Play **DVD-VR**
Select the play mode between playlist chapter segments and partially deleted titles.
	●On: The chapters in playlists are played seamlessly. This does
	   not work while searching or when there are several audio
	   types included on the playlist. Additionally, the positioning of
	   chapter segments may change slightly.
	●Off: The points where chapters in playlists change are played
	   accurately, but the picture may freeze for a moment.

Black Level Control Select lighter or darker for adjusting the black level control to the desired setting for picture enhancement.	●Lighter: When video is output from VIDEO OUT terminal. ●Darker: When video is output from COMPONENT VIDEO OUT terminal.

RQT9378

To select these options, perform steps ❶-❹ (➪ 32)

"Audio"

Dynamic Range Compression `BD-V` `AVCHD` `DVD-V` `DivX` (Dolby Digital, Dolby Digital Plus and Dolby TrueHD only) Change the dynamic range (➪ 50) for late night viewing.	● On ●<u>Off</u> ● Auto: Effective only when Dolby TrueHD is played.

Digital Audio Output (➪ 8)
● Press [OK] to show the following settings.

Dolby D/Dolby D +/ Dolby TrueHD **DTS/DTS-HD**	Select whether Dolby Digital, Dolby Digital Plus, Dolby TrueHD, DTS Digital Surround, DTS-HD High Resolution Audio or DTS-HD Master Audio is output in "Bitstream" or "PCM" format. ● Not making the proper settings may result in noise. ● If the unit is connected with the HDMI AV OUT terminal, the specifications of the connected equipment take preference over this unit and audio selected in these items may not be output (e.g., when a television is connected, the HDMI audio output of this unit is limited to down-mixed 2ch.)	● <u>Bitstream</u>: Select "Bitstream" when the connected equipment can decode the respective audio format. – Connect equipment supporting HDMI (High Bit rate Audio) and use a High Speed HDMI Cable in order to output high bit rate audio such as Dolby Digital Plus, Dolby TrueHD, DTS-HD High Resolution Audio or DTS-HD Master Audio. ● PCM: Select "PCM" when the connected equipment cannot decode the respective audio format. Refer to the operating instructions for connected devices to verify whether or not they can decode each of the audio formats.
BD-Video Secondary Audio `BD-V` Turn on/off the button click sound on the menu and audio with secondary video in picture-in-picture mode. (➪ 22)	● <u>On</u>: The primary audio and secondary audio are mixed and output. The sampling frequency is converted to 48 kHz. ● Off: The button click sound on the menu and secondary audio are not output.	
PCM Down Conversion Select how to output audio with a sampling frequency of 96 kHz. ● Signals are converted to 48 kHz despite the settings across in the following cases: – when the signals have a sampling frequency of 192 kHz – when the disc has copy protection – when "BD-Video Secondary Audio" is set to "On"	● On: Signals are converted to 48 kHz. (Choose when the connected equipment cannot process signals with sampling frequency of 96 kHz.) ● <u>Off</u>: Signals are output as 96 kHz. (Choose when the connected equipment can process signals with sampling frequency of 96 kHz.)	
Downmix Switch the downmix system for playing back multi-channel surround sound. ● When "Dolby D/Dolby D +/Dolby TrueHD" or "DTS/DTS-HD" is set to "Bitstream", there are no downmix effects for the outputted audio. ● The audio will be outputted in "Stereo" in the following cases. – AVCHD playback – Playback of button click sound on the menu and audio with secondary video in picture-in-picture mode	● <u>Stereo</u>: When connected to equipment that does not support the virtual surround function. ● Surround encoded: When connected to equipment that supports the virtual surround function.	
High Clarity Sound `BD80` When the analog video terminal is not being used, the electrical current that flows through the analog video circuit can be stopped. This prevents adverse effects on the audio signals and produces clearer sound. ● Set to "Enable" and then set "High Clarity Sound" on the on-screen menu to "On". (➪ 31) ● Use this when outputting image via HDMI terminal. Analog image will not be output via COMPONENT VIDEO OUT terminal or VIDEO OUT terminal.	● Enable ● <u>Disable</u>	

"Display"

Status Messages Choose whether to show status messages automatically.	● <u>Automatic</u> ● Off
On-screen Language Choose the language for these menus and on-screen messages.	● <u>English</u> ● Français ● Español
Screen Saver Function This is to prevent burn-in on the screen. ● When this is set to "On", the masked-off area on the screen becomes gray. [Only when connecting with an HDMI cable or a component video cable and "HDMI Resolution" (➪ 34) is set to any other mode than "480p", or "Component Video Resolution" (➪ 34) is set to "720p" or "1080i"]	● On: If there is no operation for 10 minutes or more, the displayed screen switches to the other states automatically. – When the Direct Navigator or FUNCTIONS menu is displayed, the display returns to the screen saver mode. – When CD or MP3 is played, the display returns to the screen saver mode. (Playback continues.) – When still pictures are shown (except for slideshow), the display returns to the Direct Navigator screen. ● <u>Off</u>

Continued on the next page

(Continued on the next page)

33

RQT9378

Changing the unit's settings

To select these options, perform steps ❶–❹ (⇨ 32)
Underlined items are the factory presets.

"Display" (continued)

FL Display Changes the brightness of the unit's display.	●<u>Bright</u> ●Dim: The display is dimmed. ●Auto: The display is dimmed during playback and bright except playback.
SD Card LED Control BD80 Set the lighting method for the lamp on the SD card slot.	●<u>On</u> ●Off ●SD inserted: When this unit is turned on and SD card is inserted, the lamp is lighted.
License	Information about the software used by this unit is displayed.

"TV / Device Connection"

TV Aspect Set to match the type of television connected.	When connected to a 4:3 aspect television: ●4:3 Pan & Scan: Video recorded for a widescreen is played as Pan & Scan (unless prohibited by the producer of the disc). When playing BD-Video, video is output as "4:3 Letterbox". ●4:3 Letterbox: Video recorded for a widescreen is played in the letterbox style. When connected to a 16:9 widescreen television: ●<u>16:9</u>: Video recorded for 4:3 aspect screen is displayed as a 4:3 ratio image in the center of the screen. ●16:9 Full: Video recorded for 4:3 aspect screen is displayed as a horizontally stretched 16:9 image.

HDMI Connection
●Press [OK] to show the following settings.

HDMI Video Mode Select "On" when video is output from HDMI AV OUT terminal.	●<u>On</u>: Images are output from the HDMI terminal in the resolution set in "HDMI Resolution". Video from COMPONENT VIDEO OUT terminal is output as "480i". ●Off Images are output in the resolution set in "Component Video Resolution".
HDMI Resolution* The items supported by the connected devices are indicated on the screen as "✳". When any item without "✳" is selected, the images may be distorted.	●<u>Auto</u>: Automatically selects the output resolution best suited to the connected television (1080p, 1080i, 720p or 480p). ●480p ●720p ●1080i ●1080p – When outputting 1080p signal, we recommend using High Speed HDMI Cables that have the HDMI logo (as shown on the cover) and are less than 5.0 meters to prevent video distortion etc. – When the unit is connected to an amplifier/receiver that does not support the resolution set on the unit, the video cannot be output properly. In this case, use the HDMI cable to connect the unit to the TV and then connect the unit to the amplifier/receiver using a cable other than HDMI. – To enjoy high definition video up-converted to 1080p, you need to connect the unit directly to 1080p compatible HDTV (High Definition Television). If this unit is connected to an HDTV through other equipment, it must also be 1080p compatible.
24p Output BD-V DVD-V When this unit is connected to a TV supporting 1080/24p output via an HDMI cable, this unit displays each frame at 1/24 second intervals – the same interval originally shot with the film camera. ●When playing DVD-Video, set to "On" and then set "24p" in "Video" (⇨ 31) to "On"	●On: Images in 24p are output in 24p as they are. However, –when video is being output at 24 frames, images from any other terminal than the HDMI terminal may not be output properly. – BD-V : when images other than 24p are played, images are output at 60p. ●<u>Off</u>
HDMI RGB Output Range Effective when connected to a device that only supports RGB output.	●<u>Standard</u>: The video is output as it is. ●Enhanced: When the black and white contrast of a video is low, the signal is enhanced to reproduce clear video.
HDMI Audio Output This setting selects whether or not to output audio from HDMI.	●<u>On</u>: ●Off: When the TV is connected to this unit using an HDMI cable, and this unit is also connected to other devices, such as an amplifier/receiver using an optical digital audio cable or a coaxial cable BD80 .
VIERA Link Set to use "HDAVI Control" function when connected with an HDMI cable to a device that supports "HDAVI Control".	●<u>On</u>: ●Off: Select when you do not want to use "HDAVI Control".
Component Video Resolution* This sets the video output resolution when using the component video terminal.	●<u>480i</u> ●480p ●720p ●1080i Even if you select "720p" or "1080i", the video output resolution is restricted to "480p" when images of DVD-Video discs are output from the COMPONENT VIDEO OUT terminals.
Analog Audio Output BD80 When connected with AUDIO OUT terminals, you can set the unit to output the best possible sound for your speakers.	●<u>2ch (Downmix) + 5.1ch</u>: When connecting to 2ch AUDIO OUT or 5.1ch AUDIO OUT. (⇨ 37) ●7.1ch: When connecting to 7.1ch AUDIO OUT. (⇨ 37)

* In this unit, a P4HD (⇨ 51) video processor is used to provide video of optimal resolution to the connected TV.

34

RQT9378

To select these options, perform steps ❶-❹ (⇨ 32)

"Network"

IP Address/DNS Settings (⇨ 17)	
● Press [OK] to show the following settings.	

Connection Test	— — — —
IP Address Auto Configuration (DHCP)	● <u>On</u>　　　● Off
IP Address	— — —. — — —. — — —. — — —
Subnet Mask	— — —. — — —. — — —. — — —
Default Gateway	— — —. — — —. — — —. — — —
DNS Auto Configuration (DHCP)	● <u>On</u>　　　● Off
Primary DNS	— — —. — — —. — — —. — — —
Secondary DNS	— — —. — — —. — — —. — — —
Auto Detect Connection Speed	● <u>On</u>　　　● Off
Connection Speed Setting This is enabled only when "Auto Detect Connection Speed" is turned "Off".	● <u>10BASE Half Duplex</u>　　● 10BASE Full Duplex ● 100BASE Half Duplex　　● 100BASE Full Duplex

Proxy Server Settings (⇨ 18)	
● Press [OK] to show the following settings.	

Reset to factory preset	● Yes　　● <u>No</u>
Proxy Address	(The initial setting is blank.)
Proxy Port Number	(The initial setting is "0".)
Connection Test	— — — —

Network Service (⇨ 27) (VIERA CAST)	
● Press [OK] to show the following settings.	

Network Lock You can restrict using VIERA CAST. ● Follow the on-screen instructions. Enter a 4-digit password with the numbered buttons when the password screen is shown. It will be the common password for "DVD-Video Ratings", "BD-Video Ratings" and "Network Lock". ● **Do not forget your password.**	● On　　　　● <u>Off</u> Changing settings (When "On" is selected) ● Change Password
Audio Auto Gain Control Volume that is different depending on the contents is adjusted automatically to the standard volume while using the VIERA CAST. ● Depending on contents, this function effect will not work. ● Select "Off" when the audio is warped.	● <u>On</u>　　　● Off
Reduce to Screen Size The screen is displayed reduced so the displayed screen of the content does not get truncated.	● On　　　● <u>Off</u>
Time Zone By selecting the time zone, it is possible to set the unit's time to match your location. ● Some VIERA CAST contents require the time zone to be set. Set the time zone if necessary.	● GMT −12 to +12 (The initial setting is "−5".) GMT −5 = EST (Eastern Standard Time), GMT −6 = CST (Central Standard Time) GMT −7 = MST (Mountain Standard Time), GMT −8 = PST (Pacific Standard Time) GMT −9 = AKST (Alaska Standard Time), GMT −10 = HST (Hawaii Standard Time)
DST Select "On" when using Daylight Saving time.	● On　　　● <u>Off</u>

MAC Address (⇨ 17)	
Displays the "MAC Address" of this unit.	

"Others"

Off Timer Select how long the unit remains on when it is not being used.	● 2 Hours　　● <u>6 Hours</u>　　● Off
Remote Control Code (⇨ 36)	● <u>Set Code 1</u>　　● Set Code 2　　● Set Code 3
Quick Start Speed of startup from power off is increased. ● When the setting of "Stand-by power save" is enabled on the TV that supports HDAVI Control 4, it will take longer to startup this unit when the power supply of the TV is on standby mode even if the "Quick Start" is set to "On".	● On: ● <u>Off</u>: Internal control unit will be powered when it is set to "On", so contents of the following will be different from the time it is set to "Off". ● Idle power consumption will increase. (about the power consumption ⇨ 45) ● The cooling fan may turn slowly to prevent overheating of internal parts.
Easy Setting You can execute basic settings ("On-screen Language", "TV Aspect", "Analog Audio Output" BD80, "Quick Start").	● Yes　　● <u>No</u>

35

RQT9378

Changing the unit's settings

Underlined items are the factory presets.

"Others" (continued)

Restore Default Settings This returns all values in the Setup menu and the on-screen menu, except for "Remote Control Code", "On-screen Language", "IP Address/DNS Settings", "Proxy Server Settings", "Network Service", "DVD-Video Ratings" and "BD-Video Ratings" to the default settings.	● Yes	●<u>No</u>

DivX Registration DivX (⇨ 26)
You need this registration code to purchase and play DivX Video-on-Demand (VOD) content.

Firmware Update (⇨ 16)
● Press [OK] to show the following settings.

Automatic Update Check When this equipment remains connected to the Internet, it will check for the latest firmware version when it is turned on and you can update it if necessary.	●<u>On</u>	●Off
Update Now You can update the firmware manually.	● Yes	●<u>No</u>

When other Panasonic products respond to this remote control

Change the remote control code on the main unit and the remote control (the two must match) if you place other Panasonic products close together.

❶ Press [SETUP].

❷ Press [▲, ▼] to select "Others" and press [OK].

❸ Press [▲, ▼] to select "Remote Control Code" and press [OK].

❹ Press [▲, ▼] to select the code (1, 2, or 3) and press [OK].

❺ To change the code on the remote control
While pressing [OK], press and hold the numbered button ([1], [2] or [3]) for more than 5 seconds.

❻ Press [OK].

When the following indicator appears on the unit's display and you are unable to operate the unit

The unit's remote control code

Press and hold [OK] and the indicated number button at the same time for more than 5 seconds.

Language code list   Enter the code with the numbered buttons.

|												
Abkhazian:	6566	Catalan:	6765	Gujarati:	7185	Lingala:	7678	Rhaeto-Romance:		Tamil:	8465
Afar:	6565	Chinese:	9072	Hausa:	7265	Lithuanian:	7684		8277	Tatar:	8484
Afrikaans:	6570	Corsican:	6779	Hebrew:	7387	Macedonian:	7775	Romanian:	8279	Telugu:	8469
Albanian:	8381	Croatian:	7282	Hindi:	7273	Malagasy:	7771	Russian:	8285	Thai:	8472
Amharic:	6577	Czech:	6783	Hungarian:	7285	Malay:	7783	Samoan:	8377	Tibetan:	6679
Arabic:	6582	Danish:	6865	Icelandic:	7383	Malayalam:	7776	Sanskrit:	8365	Tigrinya:	8473
Armenian:	7289	Dutch:	7876	Indonesian:	7378	Maltese:	7784	Scots Gaelic:	7168	Tonga:	8479
Assamese:	6583	English:	6978	Interlingua:	7365	Maori:	7773	Serbian:	8382	Turkish:	8482
Aymara:	6589	Esperanto:	6979	Irish:	7165	Marathi:	7782	Serbo-Croatian:	8372	Turkmen:	8475
Azerbaijani:	6590	Estonian:	6984	Italian:	7384	Moldavian:	7779	Shona:	8378	Twi:	8487
Bashkir:	6665	Faroese:	7079	Japanese:	7465	Mongolian:	7778	Sindhi:	8368	Ukrainian:	8575
Basque:	6985	Fiji:	7074	Javanese:	7487	Nauru:	7865	Singhalese:	8373	Urdu:	8582
Bengali; Bangla:		Finnish:	7073	Kannada:	7578	Nepali:	7869	Slovak:	8375	Uzbek:	8590
	6678	French:	7082	Kashmiri:	7583	Norwegian:	7879	Slovenian:	8376	Vietnamese:	8673
Bhutani:	6890	Frisian:	7089	Kazakh:	7575	Oriya:	7982	Somali:	8379	Volapük:	8679
Bihari:	6672	Galician:	7176	Kirghiz:	7589	Pashto, Pushto:	8083	Spanish:	6983	Welsh:	6789
Breton:	6682	Georgian:	7565	Korean:	7579	Persian:	7065	Sundanese:	8385	Wolof:	8779
Bulgarian:	6671	German:	6869	Kurdish:	7585	Polish:	8076	Swahili:	8387	Xhosa:	8872
Burmese:	7789	Greek:	6976	Laotian:	7679	Portuguese:	8084	Swedish:	8386	Yiddish:	7473
Byelorussian:	6669	Greenlandic:	7576	Latin:	7665	Punjabi:	8065	Tagalog:	8476	Yoruba:	8979
Cambodian:	7577	Guarani:	7178	Latvian, Lettish:	7686	Quechua:	8185	Tajik:	8471	Zulu:	9085

Changing the speaker setting to suit your speakers [BD80]

When connecting to an amplifier/receiver to enjoy multi-channel surround sound, use the following settings on this unit if they cannot be set on the amplifier/receiver.
The settings are effective when connecting to analog 7.1ch/5.1ch AUDIO OUT terminal.

Preparation
❶ Set "Analog Audio Output" to "2ch (Downmix) + 5.1ch" or "7.1ch". (⇨ 34)
A message is displayed.
❷ Press [OK].
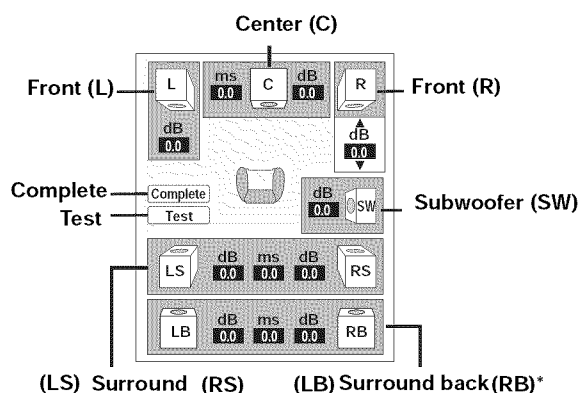
* Surround back channel is enabled only when setting "Analog Audio Output" to "7.1ch".

Speaker presence and size ( )
Set all the connected speakers individually.
❶ Press [▲, ▼, ◄, ►] to select the speaker icon and press [OK].
❷ Press [▲, ▼] to select the setting and press [OK].

Icon examples:
Surround speaker (LS)

Large   Small   No

● **Large**: Select when the speaker supports low-frequency (under 100 Hz) reproduction.
● **Small**: Select when the speaker does not support low-frequency reproduction.

In order to make an ideal listening environment, settings of speaker sizes may be automatically adjusted.
For example, if the subwoofer is set to "No", the front speakers will automatically be set to "Large". (In this case, we recommend connecting a speaker that can reproduce bass below 100 Hz.)

Delay time ( )
For optimum listening with 7.1/5.1-channel sound, all the speakers, except for the subwoofer, should be the same distance from the seating position.
If you have to place the center, surround and surround back speakers closer to the seating position, adjust the delay time to make up for the difference.
If either distance ⓐ or ⓒ is less than ⓑ (⇨ right), find the difference in the relevant table and change to the recommended setting.
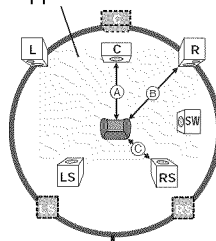❶ Press [▲, ▼, ◄, ►] to select the delay time box ( ) and press [OK].
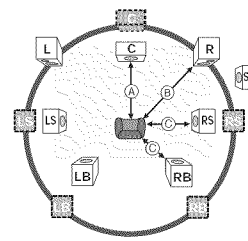❷ Press [▲, ▼] to select the setting and press [OK].

5.1ch speaker connection   7.1ch speaker connection
Approximate room dimensions

Circle of constant primary listening distance

▢ : Actual speaker position

▥ : Ideal speaker position

ⓐ ⓑ ⓒ : Primary listening distance

ⓐ **Center speaker**

Difference	Setting
Approx. 34 cm (1 ft. 1 in.)	1.0 ms
Approx. 68 cm (2 ft. 2 in.)	2.0 ms
Approx. 102 cm (3 ft. 4 in.)	3.0 ms
Approx. 136 cm (4 ft. 5 in.)	4.0 ms
Approx. 170 cm (5 ft. 6 in.)	5.0 ms

ⓒ **Surround/Surround back speakers**

Difference	Setting
Approx. 170 cm (5 ft. 6 in.)	5.0 ms
Approx. 340 cm (11 ft. 1 in.)	10.0 ms
Approx. 510 cm (16 ft. 8 in.)	15.0 ms

Channel balance ( )
❶ Select "Test" and press [OK].
A test signal is output.

Front (L) ⟶ Center (C) ⟶ Front (R) ⟶ Surround (RS)
↑   ↓
Surround (LS) ⟵ Surround Back (LB) ⟵ Surround Back (RB)

❷ While listening to the test signal, press [▲, ▼] to adjust the volume of each speaker
Front speakers: 0.0 to −6.0 dB
Center and surround speakers: 0.0 to −12.0 dB
❸ Press [OK].
The test signal stops.
● No signal is output for the subwoofer. To adjust its volume, play something, then return to this screen to adjust to suit your taste.

To finish the speaker setting
Press [▲, ▼, ◄, ►] to select "Complete" and press [OK].

Settings

About MP3/JPEG/DivX files

MP3

File format	MP3
Playable media	CD-R[*1], CD-RW[*1], DVD-R[*1, *5], DVD-R DL[*1, *5], USB device
Extension	Files must have the extension ".mp3" or ".MP3".
Compression rate	32 kbps to 320 kbps
Sampling rate	44.1 kHz/48 kHz
Reference	ID3 tags: version 1, 2.2, 2.3, 2.4 ID3 is a tag embedded in MP3 track to provide information about the track. This unit supports the versions listed above but only titles and the names of artists can be displayed. ● If there is a large amount of still picture data etc. within a MP3 file, play may not be possible.

JPEG

File format	JPEG
Playable media	CD-R[*1], CD-RW[*1], DVD-RAM[*2], DVD-R[*1, *5], DVD-R DL[*1, *5], BD-RE[*3], SD card, USB device
Extension	Files must have the extension ".jpg" or ".JPG".
Picture resolution	between 34×34 and 8192×8192 pixels (sub sampling is 4:2:2 or 4:2:0)
Reference	JPEG conforming DCF[*4] is supported. Thawing Time: approx. 2 sec. (7 M pixels) ● MOTION JPEG and Progressive JPEG is not supported

DivX BD80

File format	DivX
Playable media	CD-R[*1], CD-RW[*1], DVD-R[*1, *5], DVD-R DL[*1, *5], USB device
Extension	Files must have the extension ".DIVX", ".divx", ".AVI" or ".avi".
Picture resolution	between 32×32 and 720×576 pixels
Reference	● Certified to the DivX Home Theater Profile. **Video** – Number of stream: Up to 1 – Codec: DIV3, DIV4, DIVX, DV50, DIV6 – FPS (Frame Per Second): Up to 30 fps **Audio** – Number of stream: Up to 8 – Format: MP3, MPEG, AC3 – Multi channel: AC3 is possible. MPEG multi is 2 ch conversion. ● GMC (Global Motion Compensation) is not supported. ● Picture may stop if the DivX files are greater than 2 GB.

Subtitles text file of DivX BD80

File format	Subtitles text file of DivX
Playable media	CD-R[*1], CD-RW[*1], DVD-R[*1, *5], DVD-R DL[*1, *5], USB device
File format	MicroDVD, SubRip, or TMPlayer
Extension	Files must have the extension ".SRT", ".srt", ".SUB", ".sub", ".TXT", or ".txt"
Reference	● The DivX video file and subtitles text file are inside the same folder, and the file names are the same except for the file extensions. ● If there are more than one subtitles text files inside the same folder, they are displayed in the following order of priority: ".srt", ".sub", ".txt". ● In the following situations, the subtitles cannot be displayed as recorded. Furthermore, depending on the methods used to create the file or the state of the recording, only parts of the subtitles may be displayed, or the subtitles may not be displayed at all. – When special text or characters are included in the subtitles text. – When the file size is larger than 256 KB. – When characters with specified styling are included in the subtitle data. – Codes that specify the character style within files are displayed as subtitle characters. – When data with a different format exists within the subtitle data. ● If the file name of the DivX video file is not displayed correctly on the menu screen (the file name is displayed as "_"), the subtitles text may not be displayed correctly. ● Depending on the disc, the subtitles text cannot be displayed when search and other such operations are being performed.

● English alphabet and Arabic numerals are displayed correctly. Other characters may not be displayed correctly.
● The display order on this unit may differ from how the order is displayed on a computer.
● Depending on how you create the media (writing software), files and folders may not play in the order you numbered them.
● This unit is not compatible with packet-write format.
● Depending on the recording conditions, the media may not play.
● Operation may take time to complete when there are many files and/or folders and some files may not display or be playable.

*1 ISO9660 level 1 or 2 (except for extended formats), Joliet
 This unit is compatible with multi-session.
 This unit is not compatible with packet writing.
*2 Discs must conform to UDF 2.0.
*3 Discs must conform to UDF 2.5.
*4 Design rule for Camera File system: unified standard established by Japan Electronics and Information Technology Industries Association (JEITA).
*5 Discs must conform to UDF bridge (UDF 1.02/ISO9660).
 This unit is not compatible with multi-session.
 The default session only is played.

Structure of folders that can be played in this unit

You can play files on this unit by structure of folders as shown below. However depending on the method of writing data (writing software), play may not be in the order you numbered the folders.

📁 Folder which can be displayed with this unit
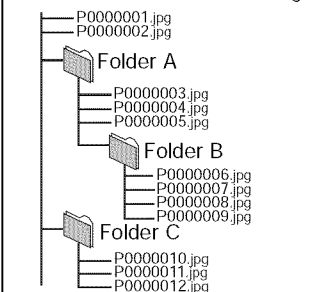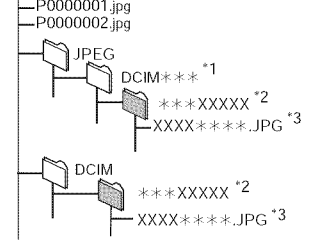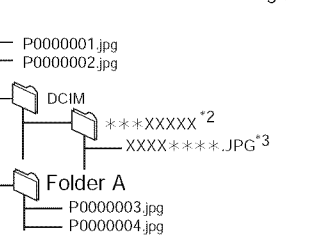✳✳✳: Numbers
XXX: Letters
*1 ✳✳✳: from 001 to 999
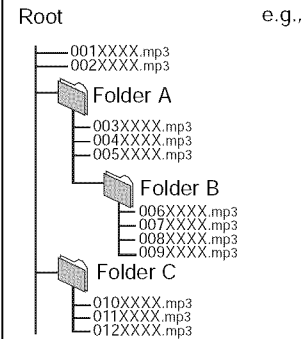*2 ✳✳✳: from 100 to 999
    XXX: up to 5 figures
*3 ✳✳✳✳: from 0001 to 9999

Structures of still picture (JPEG) folders

in DVD-R/DVD-R DL/CD-R/CD-RW
Files inside a folder are displayed in the order they were updated or taken.

Root   e.g.,
```
├─ P0000001.jpg
├─ P0000002.jpg
├─📁 Folder A
│   ├─ P0000003.jpg
│   ├─ P0000004.jpg
│   ├─ P0000005.jpg
│   └─📁 Folder B
│       ├─ P0000006.jpg
│       ├─ P0000007.jpg
│       ├─ P0000008.jpg
│       └─ P0000009.jpg
└─📁 Folder C
    ├─ P0000010.jpg
    ├─ P0000011.jpg
    └─ P0000012.jpg
```

in BD-RE/DVD-RAM
● Folder structure is not displayed.

Root   e.g.,
```
├─ P0000001.jpg
├─ P0000002.jpg
├─📁 JPEG
│   └─📁 DCIM✳✳✳ *1
│       └─📁 ✳✳✳XXXXX *2
│           └─ XXXX✳✳✳✳.JPG *3
└─📁 DCIM
    └─📁 ✳✳✳XXXXX *2
        └─ XXXX✳✳✳✳.JPG *3
```

in SD card/USB device
Displays JPEG files in all folders.
● Folder structure is not displayed.

Root   e.g.,
```
├─ P0000001.jpg
├─ P0000002.jpg
├─📁 DCIM
│   └─📁 ✳✳✳XXXXX *2
│       └─ XXXX✳✳✳✳.JPG *3
└─📁 Folder A
    ├─ P0000003.jpg
    └─ P0000004.jpg
```
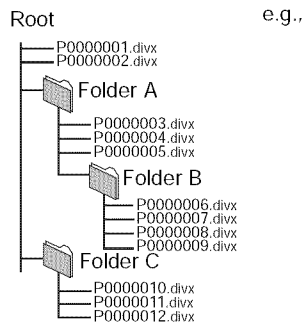
Structure of MP3 folders

in DVD-R/DVD-R DL/CD-R/CD-RW/USB device
Prefix the file names with 3-digit numbers in the order you want to play them.

Root   e.g.,
```
├─ 001XXXX.mp3
├─ 002XXXX.mp3
├─📁 Folder A
│   ├─ 003XXXX.mp3
│   ├─ 004XXXX.mp3
│   ├─ 005XXXX.mp3
│   └─📁 Folder B
│       ├─ 006XXXX.mp3
│       ├─ 007XXXX.mp3
│       ├─ 008XXXX.mp3
│       └─ 009XXXX.mp3
└─📁 Folder C
    ├─ 010XXXX.mp3
    ├─ 011XXXX.mp3
    └─ 012XXXX.mp3
```

Structure of DivX [BD80] folders

in DVD-R/DVD-R DL/CD-R/CD-RW/USB device
Files inside a folder are displayed in the order they were updated or taken.

Root   e.g.,
```
├─ P0000001.divx
├─ P0000002.divx
├─📁 Folder A
│   ├─ P0000003.divx
│   ├─ P0000004.divx
│   ├─ P0000005.divx
│   └─📁 Folder B
│       ├─ P0000006.divx
│       ├─ P0000007.divx
│       ├─ P0000008.divx
│       └─ P0000009.divx
└─📁 Folder C
    ├─ P0000010.divx
    ├─ P0000011.divx
    └─ P0000012.divx
```

Reference

Messages

The following messages or service numbers appear on the television or unit's display when something unusual is detected during startup and use.

On the television		Page
Authorization Error **This unit is not authorized** **to play this title.**	● **DivX**: You are trying to play the DivX VOD content that was purchased with a different registration code. You cannot play the content on this unit.	26
Cannot play.	●You inserted an incompatible disc (Discs recorded in PAL video, etc.).	6, 7
Cannot display on this unit.	●You tried to play a non-compatible image. ●Confirm "SD" on the unit's display is not blinking and re-insert the card.	7, 38 —
No disc is inserted.	●The disc may be upside down.	—
Rental Expired.	● **DivX**: The DivX VOD content has zero remaining plays. You cannot play it.	26
⊘ This operation is not available.	●Some operations are unsupported by the unit. For example; – **BD-V**: During playback, reverse slow-motion or reverse frame-by-frame is not possible.	20
⊘ This operation is prohibited by this disc.	●Depending on the disc, you may not be able to perform search or skip when film previews and warning screens are being played back.	20
Cannot connect. **Please check the** **connection of the LAN** **cable.**	●When a hub is used but its Link lamp does not light up, check the cable connection, LAN terminal connection, cable itself (a cross over cable may be used by mistake), etc.	16
IP address is not set.	●The "IP Address" in "IP Address/DNS Settings" is "---. ---. ---. ---". Set the "IP Address", "Subnet Mask", and "Default Gateway". (Select the automatic address acquisition if necessary.)	17
Cannot obtain IP address **using DHCP.** **Please check the** **connection or router** **settings.**	●If you use a hub, then check the connection between the hub and the router. –Use the UPLINK port of the hub to connect to a router. –Check whether or not the hub's Link lamp lights up. If it does not light up, then check the cable connection, LAN terminal connection, cable itself (a cross over cable may be used by mistake), etc. ●If the above conditions are OK, then the router may not operate in DHCP mode. Check the router settings and operation. You may reset the router to restore it to normal.	16 16
This IP address is already in **use.** **Please check the IP address** **setting.**	●This unit's IP address is used by another device. Check the IP addresses of this unit, personal computers, and routers, etc. If necessary, reconfigure them to avoid IP addresses from being duplicated.	—
Unable to perform **Connection Test.** **Please try again.**	●Turn the unit off. Remove the power cord and reconnect it and try again. If the same symptom persists, then consult your dealer.	—
IP address not set correctly.		
Connection Test was **unsuccessful. No reply** **from host.** **Please check the** **connection or router** **settings.**	●If you use a hub, then check the connection between the hub and the router. –Use the UPLINK port of the hub to connect to a router. –If the hub's Link lamp does not light up, then check the cable connection, LAN terminal connection, cable itself (a cross over cable may have been used by mistake), etc. ●Check the "IP Address", "Subnet Mask", and "Default Gateway" in the "IP Address/DNS Settings". ●If the MAC address information is required, then press [SETUP] to display the "Network" menu.	16 17 17, 35
Network connection **refused.** **Please confirm Setup** **"BD-Live Internet Access."**	●When you set "BD-Live Internet Access" to "Allow (Limited)" and play BD-Live contents which do not have a content owner certificate, the Internet access of the content is not allowed. If you allow the content to connect to Internet, set "BD-Live Internet Access" to "Allow (ALL)".	32
Unable to check for latest **firmware version.** **Please try again later.**	●The firmware download server is currently unavailable. Please try again later.	—
High Clarity Sound is **effective.** **Analog video output is** **turned off when** **playback starts.**	●"High Clarity Sound" in setup menu is set to "Enable", and "High Clarity Sound" in on-screen menu is set to "On".	31, 33

On the unit's display   Page

|		
F99	●The unit fails to operate properly. Press [POWER ⏻/I] on the main unit to switch the unit to standby for 3 seconds. Now press [POWER ⏻/I] on the main unit again to turn the unit on.	—
HDMI ONLY	●Some BD-Video discs can only be output with HDMI.	—
NET	●Displays while VIERA CAST is starting up.	—
No PLAY	●There is a viewing restriction on a BD-Video or DVD-Video.	32
No READ	●The media is dirty or badly scratched. The unit cannot play.	—
PLEASE WAIT	●The unit is carrying out internal process. This is not a malfunction. You cannot operate the unit while "PLEASE WAIT" is displayed. ●When connected to TV(VIERA) with HDAVI Control 4, and power supply is turned off by the "Auto power stand-by" function on the TV side.	— —
REMOVE	●The USB device is drawing too much power. Remove the USB device.	19
SET □ (" □ " stands for a number.)	●The remote control and main unit are using different codes. Change the code on the remote control. _SET ②_ Press and hold [OK] and the indicated number button at the same time for more than 5 seconds.	36
UNFORMAT	●You inserted an unformatted DVD-RAM, DVD-RW, +RW, an unused +R, +R DL or DVD-RW (DVD-Video format).	—
UNSUPPORT	●You have inserted a media the unit cannot play. ●You tried to operate with a non-compatible USB device.	6, 7 7
U59	●The unit is hot. The unit switches to standby for safety reasons. Wait for about 30 minutes until the message disappears. Select a position with good ventilation when installing the unit. Do not block the cooling fan on the rear of the unit.	—
U72 **U73**	●The HDMI connection acts unusually. –The connected equipment is not HDMI compatible. –Please use HDMI cables that have the HDMI logo (as shown on the cover). –The HDMI cable is damaged.	—
H□□ or F□□	●There is something unusual. (The service number displayed after H and F depends on the unit's condition.) ●Check the unit using the troubleshooting guide. If the service number does not disappear, do the following. 1 Disconnect the plug from the AC outlet, wait a few seconds, then reconnect it. 2 Press [POWER ⏻/I] to turn the power on. (The unit may be fixed.) If the service number does not disappear despite doing the above, request service from the dealer. Inform the dealer of the service number when requesting service.	— 42–44
START	●The system is being restarted during the firmware update. Please do not turn off power.	16
UPD□/□	●The firmware is being updated.	16
FINISH	●The firmware update is complete.	16

Troubleshooting guide

Before requesting service, make the following checks. If you are in doubt about some of the check points, or if the solutions indicated in the chart do not solve the problem, refer to "Customer Services Directory (United States and Puerto Rico)" on page 46 if you reside in the U.S.A.and Puerto Rico, or refer to "Product information" on page 48 if you reside in Canada.

The following do not indicate a problem with this unit:
● Regular disc rotating sounds.
● Image disturbance during search.

To reset this unit   Page

To restore the unit if it freezes due to one of the safety devices being activated	●Press and hold [POWER Φ/I] on the main unit for 3 seconds. (The settings remain unchanged.)	—
To return all settings to the factory preset	●Select "Yes" in "Restore Default Settings" in the Setup menu. This returns all values in the Setup menu and the on-screen menu, except for "Remote Control Code", "On-screen Language", "IP Address/DNS Settings", "Proxy Server Settings", "DVD-Video Ratings", "BD-Video Ratings" and "Network Service" to the default settings.	36
To return to the factory preset (No setting)	●Reset the unit as follows: 1 Press [POWER Φ/I] on the unit to turn off the unit. 2 Press and hold [I I], [POWER Φ/I] and [▲ OPEN/CLOSE] on the unit at the same time for more than 5 seconds until "HELLO" is displayed on the unit. 3 The power will turn on and then turn off.	—

Power

Power of this unit is turned off when the input for the TV is switched.	●If connected with an "HDAVI Control 4" compatible TV (VIERA) with the "Auto power stand-by" setting activated on the TV, when switching the TV input, the unit will be automatically turned to standby. For details please read the operating instructions of the TV.	—

Operation

Cannot operate the television or amplifier/ receiver. The remote control doesn't work properly.	●Change the manufacturer code of the remote control. In some cases, even if you change the code, the remote control may not be operated depending on the type of the televisions or amplifiers/receivers. ●It may be necessary to set the manufacturer code or the remote control code again after changing the batteries for remote control. ●The remote control and main unit are using different codes. Change the code on the remote control. ●The batteries are depleted. Replace them with new ones.	15 5, 15, 36 36 5
The unit is on but cannot be operated.	●Confirm the correct drive is selected. ●One of the unit's safety devices may have been activated. Reset the unit as follows: 1 Press [POWER Φ/I] on the main unit to switch the unit to standby. If the unit doesn't switch to standby, press and hold [POWER Φ/I] on the main unit for about 3 seconds. The unit is forcibly switched to standby. Alternatively, disconnect the AC power supply cord, wait one minute, then reconnect it. 2 Press [POWER Φ/I] on the main unit to switch it on. If the unit still cannot be operated, consult the dealer. ●Condensation has formed. Wait 1 to 2 hours for it to evaporate.	19 — —
Play fails to start even when [▶] (PLAY) is pressed. Play starts but then stops immediately.	●Insert the media correctly with the label facing up. ●The media is dirty. ●You tried to play a blank media or unplayable media on this unit. ● **DivX** : If playing DivX VOD content, refer to the homepage where you purchased it.	19 3 6, 7 26
Cannot eject disc.	●The unit may have a problem. While the unit is off, press and hold [I I] and [▲ OPEN/CLOSE] on the main unit at the same time for about 5 seconds to force the tray to eject. Remove the disc and consult the dealer.	—
Start up is slow. It takes time before play starts.	●Make sure that "Quick Start" is set to "On". If connected with an HDAVI Control 4 compatible TV (VIERA) with the "Stand-by power save" setting activated on the TV, even with "Quick Start" set to "On", when the TV is in standby mode, the unit may take some time to startup. ●Start up takes time in the following situations. –Immediately after a power failure or the AC power supply cord is connected. –When the unit is connected with an HDMI cable. ● **DivX** : This is normal on DivX video.	35 — —
Played back image is distorted or does not playback correctly. (**AVCHD**)	●High definition video (transfer rate of 18 Mbps or faster) cannot be played back correctly if it was recorded on a DVD compatible to double speed or slower.	—
Cannot set "On" in "24p Output".	●Only when the unit is connected to the HDMI terminal of a TV supporting 24p you can select "On". In some cases where the unit is connected to a TV via an amplifier/receiver through the HDMI terminals, you may not be able to select "On". In this case, connect the unit to a TV through the HDMI terminal and connect it to the amplifier/receiver through any terminal other than HDMI.	34

TV screen and video		Page
The images from this unit do not appear on the television. **Picture is distorted.** **Jittering occurs.**	●Make sure that the television is connected to either the VIDEO OUT terminal, COMPONENT VIDEO OUT terminals or HDMI AV OUT terminal on this unit.	11
	●Make sure that the television's input setting (e.g., VIDEO 1) is correct.	—
	●An incorrect resolution is selected in "Component Video Resolution", when the television is connected to COMPONENT VIDEO OUT terminals. While stopped, press and hold [■] and [▶] (PLAY) on the main unit at the same time for more than 5 seconds to cancel this setting. Set the item again.	34
	●If "24p Output" is set to "On" when the unit is connected to a TV through any terminal other than HDMI, images may not display properly. In this case, set "24p Output" to "Off".	34
	●When "24p Output" is set to "On", HDMI authentication takes place where 24p images switch to other images, and a black screen is displayed.	34
	●When "24p Output" is set to "On", jittering may occur while playing DVD-Video other than 24p images. In this case, turn "24p Output" to "Off".	34
	●**DivX**: Images may not be output due to how files were created.	—
	●An incorrect resolution is selected in "HDMI Resolution", when the television is connected to HDMI AV OUT terminals. While stopped, press and hold [■] and [▶] (PLAY) on the main unit at the same time for more than 5 seconds to cancel this setting. Set the item again. However, Dolby Digital Plus, Dolby TrueHD, and DTS-HD audio are not output in bitstream. To output the bitstream, select "Restore Default Settings" to restore the factory presets and make proper settings.	36
	●Picture may not be seen when more than 4 devices are connected with HDMI cables. Reduce the number of connected devices.	—
The screen changes automatically.	●When the "Screen Saver Function" in the Setup menu is set to "On", the display may return to the screen saver mode automatically if there is no operation for 10 minutes or more.	33
Video is not output.	●An image is not output from the COMPONENT VIDEO OUT terminal or the VIDEO OUT terminal when the "High Clarity Sound" is enabled. Set the "High Clarity Sound" in the on-screen menu to "Off" to use the COMPONENT VIDEO OUT terminal or the VIDEO OUT terminal.	31
Video is not output in high definition.	●High definition video cannot be output through the VIDEO OUT terminals.	—
	●Confirm that the "HDMI Video Mode", "HDMI Resolution", and "Component Video Resolution" in the Setup menu are set properly.	34
The 4:3 aspect ratio picture expands left and right. **Screen size is wrong.**	●Use the television to change the aspect. Refer to your television's operating instructions.	—
	●When using a component video cable, set "Progressive" to "Video". If the situation is not restored after that, set "TV Aspect" to "4:3 Pan & Scan".	31, 34
	●When using an HDMI cable, change "TV Aspect" type to "16:9".	34
There is a lot of after-image when playing video.	●Turn "3D NR" or "Integrated NR" off if it is on.	31

When playing DVD-Video using progressive output, one part of the picture momentarily appears to be doubled up.	●When you use the HDMI AV OUT terminal for video output, follow the steps below for setting.
	  1 Connect this unit to the TV with any cable except the HDMI cable.
	  2 When you connect with the Component Video cable, set "HDMI Video Mode" to "Off" and "Component Video Resolution" to "480i" in the Setup menu.
		34

Still pictures (JPEG) do not play back normally.	●The images that were edited on the PC, such as Progressive JPEG, etc., may not play back.	38

Sound

No sound. **Low volume.** **Distorted sound.** **Cannot hear the desired audio type.**	●Check the connections and the "Digital Audio Output" settings. Check the input mode on the amplifier/receiver if you have connected one.	11–13, 33
	●Press [AUDIO] to select the audio.	21
	●**BD80**: When the unit is connected to an amplifier/receiver with the AUDIO OUT terminal, set "Analog Audio Output" and match multi channel speaker settings. If these are not set properly, the audio is not output correctly.	34, 37
	●**BD80**: When connected to an amplifier/receiver or any other devices using both AUDIO OUT terminal and HDMI AV OUT terminal, the audio from AUDIO OUT terminal may not be output with the desired audio depending on the specifications of the connected devices, etc. Set "HDMI Audio Output" to "Off", when you output multi-channel surround sound from AUDIO OUT terminal.	34
	●The sound effects (Re-master, V. Surround, etc.) will not work when the bitstream signal is output from the HDMI AV OUT terminal or the DIGITAL AUDIO OUT terminal.	—
	●**DivX**: Audio may not be output depending on how files were created.	—
	●Audio may not be heard when more than 4 devices are connected with HDMI cables. Reduce the number of connected devices.	—
	●To output audio from a device connected with an HDMI cable, set "HDMI Audio Output" to "On" in the Setup menu.	34
Cannot switch audio.	●There are discs for which audio cannot be changed because of how the disc was created.	—
	●When connecting an amplifier/receiver using a coaxial cable (**BD80**), optical digital audio cable or an HDMI cable, you cannot switch the audio if "Dolby D/Dolby D +/Dolby TrueHD" or "DTS/DTS-HD" is set to "Bitstream". Set "Dolby D/Dolby D +/Dolby TrueHD" or "DTS/DTS-HD" to "PCM" or connect using AUDIO OUT terminal.	12, 13, 33

Reference

43

Troubleshooting guide

Card

		Page
The capacity of the SD card decreased.	●When a BD-Video that supports BD-Live is used, and an SD card is in the slot, data may be written to the SD card.	22
Music on an SD card cannot be played.	●Data that can be played from an SD card are AVCHD, MPEG2 and JPEG data.	7
The contents of the card cannot be read.	●The card is not compatible or the contents on the card may be damaged. ●Turn off and then turn on the unit again.	7 —

USB

		Page
The contents of the USB device cannot be read.	●Remove the USB device from the USB port and then insert again. If this does not solve the problem, turn off and turn on the unit again. ●Check that the USB device is inserted correctly. ●The format of the USB device or of its contents is not compatible with the unit. (The contents on the USB device may be damaged.) ●The USB device contains a folder structure and/or file extensions that are not compatible with this unit. ●Turn off and then turn on the unit again. ●USB devices connected using a USB extension cable or a USB hub may not be recognized by this unit. ●Some USB devices cannot be used with this unit. ●If inserted during playback the USB device may not be recognized by this unit.	— 19 7 39 — — 7 —
USB device cannot be operated.	●Turn the power of this unit off once, and turn it back on.	7

Network

		Page
I can't connect to the network.	●Are you subscribed to high speed internet connection? Check that the LAN cable is properly connected. ●Have you plugged a telephone cord into the LAN terminal on this unit? Connect with a straight LAN cable. ●Confirm the power for the modem or broadband router is turned on. ●Confirm the network settings. Follow any instructions you may have received from your ISP (Internet Service Provider) and make changes to the settings. ●Are the broadband router settings correct? Read the operating instructions for the broadband router. ●Is the broadband router and/or modem connected correctly ? Check the operating instructions for each device and connect accordingly. ●Check the "Network" and "BD-Live Internet Access" settings.	16 16 — — — — 32, 35
VIERA CAST does not operate or connect.	●Is the network connection correct? ●Image of the video contents may be disturbed or may not display depending on how busy the environment or the connected line is.	16 —

Other difficulties with playback

		Page
Audio and video momentarily pause.	●This occurs between playlist chapters or scenes (**AVCHD**). ●When playing a title recorded on both layers, the unit automatically switches between layers and plays the title in the same way as a normal program. However, video and audio may momentarily cut out when the unit is switching layers.	— —
Picture-in-picture is not played with BD-Video.	●Confirm whether the disc supports picture-in-picture.	—
BD-Live is not played with BD-Video.	●Confirm whether the disc supports BD-Live. ●The inserted SD card does not have sufficient available capacity. ●The SD card is write-protected. ●Sub contents copied to an SD card are provided by the disc producer as a part of the BD-Video content. Even if you record images and audio onto an SD card, it cannot be played as a BD-Live.	22 22 7 22
Alternative soundtrack and subtitles cannot be selected.	●The languages are not recorded on the media. ●You may not be able to use the on-screen menu to change the soundtrack and subtitles on some discs. Use the disc's menus to make changes.	— 19
No subtitles.	●Subtitles are not recorded on the media. ●Turn the subtitles on. Set "Subtitle" on the on-screen menu to "On". ●When progressive output is on, closed captions cannot be displayed.	— 30 —
The subtitles overlap closed captions recorded on discs.	●Turn off the subtitles or turn off the closed caption setting on the TV.	30
The resume play function does not work.	●Memorized positions are canceled when –pressing [■] several times. –opening the disc tray. ●The resume play function may not work depending on the media. ● **BD-V** : On BD-Video discs including BD-J, the resume play function does not work.	— — —

Specifications

<div style="columns:2">

Signal system:
NTSC

Operating temperature range:
+5 °C to +35 °C (+41 °F to +95 °F)

Operating humidity range:
10 % to 80 % RH (no condensation)

Playable disc:
BD-Video
BD-ROM:Version 2
BD-RE: Version 3 (Single Layer, Dual Layer), JPEG[*6]
BD-R: Version 2 (Single Layer, Dual Layer)
DVD-RAM:DVD Video Recording format, AVCHD format[*8], JPEG[*4]
DVD-R/DVD-R DL:
         DVD-Video format[*1], DVD-Video Recording format[*1], AVCHD format[*1, 8], DivX[*7], JPEG[*4], MP3
DVD-RW:DVD-Video format[*1], DVD-Video Recording format[*1], AVCHD format[*1, 8]
+R/+RW/+R DL:
         Video[*1], AVCHD format[*1, 8]
DVD-VIDEO:
         DVD-Video format
CD-Audio:CD-DA
CD-R/CD-RW:CD-DA, JPEG[*5], MP3, DivX[*7]

SD card:
SD Memory Card[*2] formatted FAT12, FAT16, FAT32[*3]:
         JPEG[*4], AVCHD format[*8], MPEG-2

USB device:
USB Standard:USB 2.0 High Speed MP3, JPEG[*4], DivX[*7]
Format: FAT12, FAT16, FAT32

Video output:
Output level: 1.0 Vp-p (75 Ω)
Output connector: Pin jack (1 system)

Component video output: (1080i/720p/480p/480i)
Y output level: 1.0 Vp-p (75 Ω)
P$_B$ output level: 0.7 Vp-p (75 Ω)
P$_R$ output level: 0.7 Vp-p (75 Ω)
Output connector: Pin jack (Y: green, P$_B$: blue, P$_R$: red)
                                            (1 system)

Audio output:
Output level: 2 Vrms (1 kHz, 0 dB)
Output connector: Pin jack
Number of connectors :
[BD80]: 7.1 channel discrete output: 1 system
         (2 channel + 5.1 channel discrete output)

[BD60] [BD601] [BD605]:   2 channel: 1 system

Audio performance:
Frequency response:
●DVD (linear audio):   4 Hz to 22 kHz (48 kHz sampling)
                        4 Hz to 44 kHz (96 kHz sampling)
●CD-Audio: 4 Hz to 20 kHz
S/N ratio: 115 dB
Dynamic range: 100 dB
Total harmonic distortion: 0.003 %

Digital audio output:
Optical digital output: Optical terminal
Coaxial digital output [BD80]:   Pin jack

HDMI AV output
Output format:
         480p (525p)/1080i (1125i)/720p (750p)/1080p (1125p)
Output Connector: Type A (19 pin)
HDMI™ (Deep Color, x.v.Color™, High Bit rate Audio)
●This unit supports "HDAVI Control 4" function.

SD card slot:
Connector: 1 system

USB slot:
Connector: 1 system

Ethernet:
10BASE-T/100BASE-TX: 1 system

Optical pick-up: System with 2 lenses
Wave length:
         790 nm (CDs)/650 nm (DVDs)/405 nm (BDs)

LASER Specification
Class I LASER Product:
Wave length:
         790 nm (CDs)/650 nm (DVDs)/405 nm (BDs)
Laser power:
         No hazardous radiation is emitted with the safety protection

Power supply: AC 120 V, 60 Hz

Power consumption:

                                    [BD80]: Approx. 23 W

                 [BD60] [BD601] [BD605]:Approx. 22 W
Power consumption in standby mode: less than 0.5 W
Power consumption in quick start standby mode: [BD80]: **6 W**
                       [BD60] [BD601] [BD605]: **5 W**

Dimensions (W×D×H)
[BD80]:
Excluding the projecting parts:
                        430 mm×242 mm×55 mm
         (Approx. 16 15/16"×9 9/16"×2 3/16")
Including the projecting parts:
                        430 mm×249 mm×55 mm
         (Approx. 16 15/16"×9 13/16"×2 3/16")

[BD60] [BD601] [BD605]:
Excluding the projecting parts:
                        430 mm×242 mm×49 mm
         (Approx. 16 15/16"×9 9/16"×1 15/16")
Including the projecting parts:
                        430 mm×249 mm×49 mm
         (Approx. 16 15/16"×9 13/16"×1 15/16")

Mass (Weight):   Approx. 2.6 kg (5.7 lbs)

Specifications are subject to change without notice.
*1 Finalizing is necessary.
*2 Includes SDHC card
   Includes miniSD Cards (need a miniSD Adaptor)
   Includes microSD Cards (need a microSD Adaptor)
*3 Does not support long file name.
*4 The total combined maximum number of recognizable picture contents and folders: 3000 picture contents and 300 folders.
*5 The total combined maximum number of recognizable picture contents and folders: 999 picture contents and 99 folders.
*6 The total combined maximum number of recognizable picture contents and folders: 9999 picture contents and 300 folders.
*7 [BD80]: The total combined maximum number of recognizable picture contents and folders: 200 file contents and 300 folders.
*8 AVCHD format V1.0
●Useable capacity will be less. (SD Card)

</div>

Reference

Limited Warranty (Only for U.S.A. and Puerto Rico)

Panasonic Consumer Electronics Company,
Division of Panasonic Corporation of North America
One Panasonic Way, Secaucus, New Jersey 07094

Panasonic Blu-ray Disc Player Limited Warranty

Limited Warranty Coverage (For U.S.A. and Puerto Rico Only)

If your product does not work properly because of a defect in materials or workmanship, Panasonic Consumer Electronics Company (referred to as "the warrantor") will, for the length of the period indicated on the chart below, which starts with the date of original purchase ("Limited Warranty period"), at its option either (a) repair your product with new or refurbished parts, or (b) replace it with a new or a refurbished product. The decision to repair or replace will be made by the warrantor.

Product or Part Name	Parts	Labor
Blu-ray Disc Player	One (1) Year	One (1) Year

During the "Labor" Limited Warranty period there will be no charge for labor. During the "Parts" warranty period, there will be no charge for parts. You must mail-in your product during the warranty period. If non-rechargeable batteries are included, they are not warranted. This Limited Warranty only applies to products purchased and serviced in the United States or Puerto Rico. This Limited Warranty is extended only to the original purchaser and only covers product purchased as new. A purchase receipt or other proof of original purchase date is required for Limited Warranty service.

Carry-In or Mail-In Service

For Carry-In or Mail-In Service in the United States and Puerto Rico call 1-800-211-PANA (7262) or visit
Panasonic Web Site: http://www.panasonic.com

When shipping the unit carefully pack and send it prepaid, adequately insured and preferably in the original carton. Include a letter detailing the complaint and provide a day time phone and/or email address where you can be reached.
IF REPAIR IS NEEDED DURING THE LIMITED WARRANTY PERIOD THE PURCHASER WILL BE REQUIRED TO FURNISH A SALES RECEIPT/PROOF OF PURCHASE INDICATING DATE OF PURCHASE, AMOUNT PAID AND PLACE OF PURCHASE. CUSTOMER WILL BE CHARGED FOR THE REPAIR OF ANY UNIT RECEIVED WITHOUT SUCH PROOF OF PURCHASE.

Limited Warranty Limits And Exclusions

This Limited Warranty ONLY COVERS failures due to defects in materials or workmanship, and DOES NOT COVER normal wear and tear or cosmetic damage. The Limited Warranty ALSO DOES NOT COVER damages which occurred in shipment, or failures which are caused by products not supplied by the warrantor, or failures which result from accidents, misuse, abuse, neglect, mishandling, misapplication, alteration, faulty installation, set-up adjustments, misadjustment of consumer controls, improper maintenance, power line surge, lightning damage, modification, or commercial use (such as hotel, office, restaurant, or other business), rental use of the product, or service by anyone other than a Factory Service Center or other Authorized Servicer, or damage that is attributable to acts of God.

THERE ARE NO EXPRESS WARRANTIES EXCEPT AS LISTED UNDER "LIMITED WARRANTY COVERAGE". THE WARRANTOR IS NOT LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES RESULTING FROM THE USE OF THIS PRODUCT, OR ARISING OUT OF ANY BREACH OF THIS WARRANTY. (As examples, this excludes damages for lost time, cost of having someone remove or re-install an installed unit if applicable, travel to and from the servicer, loss of or damage to media or images, data or other recorded content. The items listed are not exclusive, but are for illustration only.)
ALL EXPRESS AND IMPLIED WARRANTIES, INCLUDING THE WARRANTY OF MERCHANTABILITY, ARE LIMITED TO THE PERIOD OF THE LIMITED WARRANTY.

Some states do not allow the exclusion or limitation of incidental or consequential damages, or limitations on how long an implied Limited Warranty lasts, so the exclusions may not apply to you.

This Limited Warranty gives you specific legal rights and you may also have other rights which vary from state to state. If a problem with this product develops during or after the Limited Warranty period, you may contact your dealer or Service Center. If the problem is not handled to your satisfaction, then write to the warrantor's Consumer Affairs Department at the addresses listed for the warrantor.

PARTS AND SERVICE, WHICH ARE NOT COVERED BY THIS LIMITED WARRANTY, ARE YOUR RESPONSIBILITY.

Customer Services Directory (United States and Puerto Rico)

Obtain Product Information and Operating Assistance; purchase Parts, Accessories, or obtain Literature by visiting our Web Site at:
http://www.panasonic.com/help
or, contact us via the web at:
http://www.panasonic.com/contactinfo
You may also contact us directly at:
1-800-211-PANA (7262),
Monday-Friday 9 am-9 pm; Saturday-Sunday 10 am-7 pm, EST.

For hearing or speech impaired TTY users, TTY: 1-877-833-8855

Accessory Purchases (United States and Puerto Rico)

Purchase Parts, Accessories and Instruction Books online for all Panasonic Products by visiting our Web Site at:
http://www.pstc.panasonic.com
or, send your request by E-mail to:
npcparts@us.panasonic.com
You may also contact us directly at:
1-800-332-5368 (Phone) 1-800-237-9080 (Fax Only) (Monday – Friday 9 am to 9 pm, EST.)
Panasonic Service and Technology Company
20421 84th Avenue South, Kent, WA 98032
(We Accept Visa, MasterCard, Discover Card, American Express, and Personal Checks)

For hearing or speech impaired TTY users, TTY : 1-866-605-1277

Product Repairs (United States and Puerto Rico)

Centralized Factory Service Center

MAIL TO:

Panasonic Service and Technology Company
410B Airport Road
Elgin, IL 60123-9333
Attention: BD/DVD Repair

Please carefully pack and ship, prepaid and insured, to the Elgin Centralized Factory Service Center.

As of October 2008

RQT9378

Limited Warranty (Only for CANADA)

Panasonic Canada Inc.

PANASONIC PRODUCT—LIMITED WARRANTY

Panasonic Canada Inc. warrants this product to be free from defects in material and workmanship and agrees to remedy any such defect for a period as stated below from the date of original purchase.

Technics Audio Product	One (1) year, parts and labour
Panasonic Portable/Clock Radio (without Tape, CD, MD)	One (1) year, parts and labour
Panasonic Audio/SD Audio Product	One (1) year, parts and labour
Panasonic BD/DVD Product	One (1) year, parts and labour
Panasonic Combination DVD Player/VCR	One (1) year, parts and labour
Panasonic Combination DVD Recorder/VCR	One (1) year, parts and labour
Accessories including rechargeable batteries	Ninety (90) days

LIMITATIONS AND EXCLUSIONS

This warranty does not apply to products purchased outside Canada or to any product which has been improperly installed, subjected to usage for which the product was not designed, misused or abused, damaged during shipping, or which has been altered or repaired in any way that affects the reliability or detracts from the performance, nor does it cover any product which is used commercially. Dry cell batteries are also excluded from coverage under this warranty.

This warranty is extended to the original end user purchaser only. A purchase receipt or other proof of date of original purchase is required before warranty service is performed.

THIS EXPRESS, LIMITED WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING ANY IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

IN NO EVENT WILL PANASONIC CANADA INC. BE LIABLE FOR ANY SPECIAL, INDIRECT OR CONSEQUENTIAL DAMAGES.

In certain instances, some jurisdictions do not allow the exclusion or limitation of incidental or consequential damages, or the exclusion of implied warranties, so the above limitations and exclusions may not be applicable.

WARRANTY SERVICE

FOR PRODUCT OPERATION ASSISTANCE, please contact:

Our Customer Care Centre:	Telephone #:	(905) 624-5505
	1-800 #:	1-800-561-5505
	Fax #:	(905) 238-2360
	Email link:	"Customer support" on www.panasonic.ca

FOR PRODUCT REPAIRS, please locate your nearest Authorized Servicentre at www.panasonic.ca :

Link : "Servicentres™ locator" under "Customer support"

IF YOU SHIP THE PRODUCT TO A SERVICENTRE

Carefully pack and send prepaid, adequately insured and preferably in the original carton.
Include details of the defect claimed, and proof of date of original purchase.

RQT9378

Product Service

1. **Damage requiring service**—The unit should be serviced by qualified service personnel if:
    (a) The AC power supply cord or AC adaptor has been damaged; or
    (b) Objects or liquids have gotten into the unit; or
    (c) The unit has been exposed to rain; or
    (d) The unit does not operate normally or exhibits a marked change in performance; or
    (e) The unit has been dropped or the cabinet damaged.
2. **Servicing**—Do not attempt to service the unit beyond that described in these operating instructions. Refer all other servicing to authorized servicing personnel.
3. **Replacement parts**—When parts need replacing ensure the servicer uses parts specified by the manufacturer or parts that have the same characteristics as the original parts. Unauthorized substitutes may result in fire, electric shock, or other hazards.
4. **Safety check**—After repairs or service, ask the servicer to perform safety checks to confirm that the unit is in proper working condition.

Product information

For product information or assistance with product operation:

The model number and serial number of this product can be found on either the back or the bottom of the unit.
Please note them in the space provided below and keep for future reference.

MODEL NUMBER _____

SERIAL NUMBER _____

User memo:

DATE OF PURCHASE _____
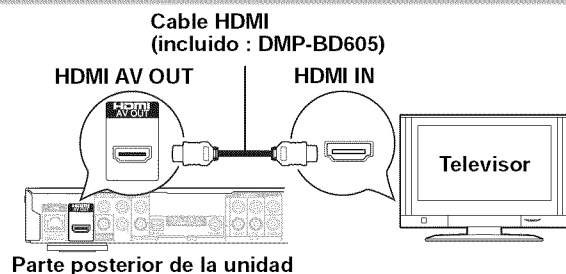DEALER NAME _____
DEALER ADDRESS _____
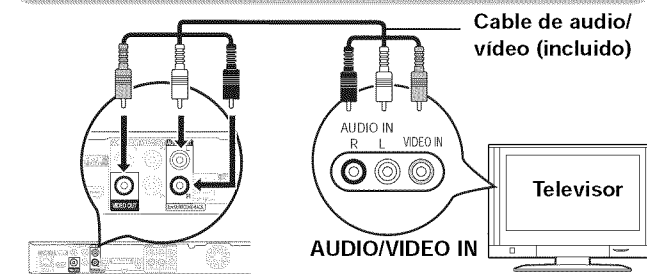_____
TELEPHONE NUMBER _____

Licenses

Java and all Java-based trademarks and logos are trademarks or registered trademarks of Sun Microsystems, Inc. in the United States and other countries.

Manufactured under license from Dolby Laboratories. Dolby and the double-D symbol are trademarks of Dolby Laboratories.

Manufactured under license under U.S. Patent #'s: 5,451,942; 5,956,674; 5,974,380; 5,978,762; 6,226,616; 6,487,535; 7,392,195; 7,272,567; 7,333,929; 7,212,872 & other U.S. and worldwide patents issued & pending.
DTS is a registered trademark and the DTS logos, Symbol, DTS-HD and DTS-HD Master Audio | Essential are trademarks of DTS, Inc.
© 1996-2008 DTS, Inc. All Rights Reserved.

This product incorporates copyright protection technology that is protected by U.S. patents and other intellectual property rights. Use of this copyright protection technology must be authorized by Macrovision, and is intended for home and other limited viewing uses only unless otherwise authorized by Macrovision. Reverse engineering or disassembly is prohibited.

HDMI, the HDMI logo and High-Definition Multimedia Interface are trademarks or registered trademarks of HDMI Licensing LLC.

This product is licensed under the AVC patent portfolio license and VC-1 patent portfolio license for the personal and non-commercial use of a consumer to (i) encode video in compliance with the AVC Standard and VC-1 Standard ("AVC/VC-1 Video") and/or (ii) decode AVC/VC-1 Video that was encoded by a consumer engaged in a personal and non-commercial activity and/or was obtained from a video provider licensed to provide AVC/VC-1 Video. No license is granted or shall be implied for any other use. Additional information may be obtained from MPEG LA, LLC. See http://www.mpegla.com.

HDAVI Control™ is a trademark of Panasonic Corporation.

"x.v.Color™" is a trademark.

VIERA Link™ is a trademark of Panasonic Corporation.

VIERA CAST™ is a trademark of Panasonic Corporation.

EZ Sync™ is a trademark of Panasonic Corporation.

"AVCHD" and the "AVCHD" logo are trademarks of Panasonic Corporation and Sony Corporation.

SDHC Logo is a trademark.

Portions of this product are protected under copyright law and are provided under license by ARIS/SOLANA/4C.

Plays DivX® video
DivX® is a registered trademark of DivX, Inc., and is used under license.   DIVX®

"Blu-ray Disc" is trademark.

"BD-LIVE" logo is trademark of Blu-ray Disc Association.

"BONUSVIEW" is trademark of Blu-ray Disc Association.

YouTube and Picasa are trademarks of Google,Inc.

Referencia rápida en español (Spanish Quick Reference)

Conexiones básicas

❷ Conexión a un televisor compatible con HDMI

Cable HDMI
(incluido : DMP-BD605)

HDMI AV OUT   HDMI IN

Televisor

Parte posterior de la unidad

❸ Conexión a un televisor con un cable para audio/vídeo

Cable de audio/vídeo (incluido)

AUDIO IN
R   L   VIDEO IN

Televisor

AUDIO/VIDEO IN

Parte posterior de la unidad
● Esta conexión no permite la salida de vídeo de alta definición.
  Utilice la conexión ❷ o ❸ para obtener vídeo de alta definición.

❸ Conexión a un televisor compatible con HDMI y a un amplificador/receptor compatible con HDMI

Cable HDMI
(incluido : DMP-BD605)   Altavoces multicanal   HDMI OUT   HDMI IN

HDMI AV OUT

Televisor

HDMI IN

Parte posterior de la unidad   Amplificador/Receptor
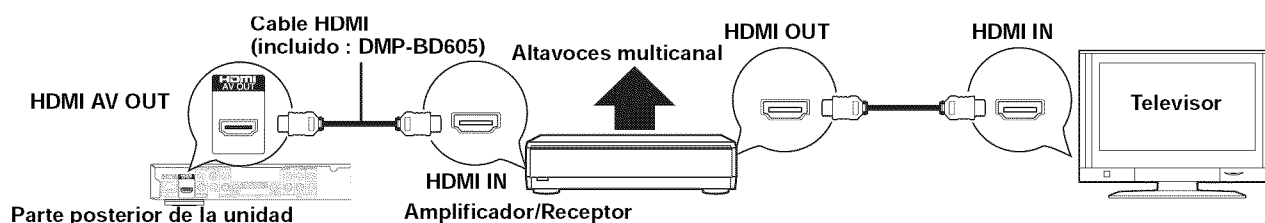
Conecte el cable de alimentación de CA por último

A una toma de corriente doméstica
(CA 120 V, 60 Hz)

AC IN ~
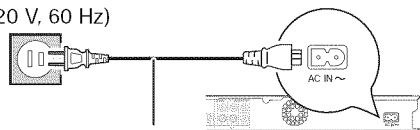
Cable de alimentación de CA (incluido)
Conéctelo cuando haya realizado el resto de conexiones.

Ahorro de energía

Esta unidad consume una pequeña cantidad de energía aunque esté ajustada en el modo de espera (Accionamiento rápido : Desactivado, aprox. 0.5 W). Para ahorrar energía cuando no vaya a utilizar la unidad durante mucho tiempo, desenchúfela de la toma de corriente.

Reproducción básica

Preparación
Encienda el televisor y seleccione la entrada de vídeo adecuada en el televisor.

❶ **Pulse [⏻ BD POWER] para encender la unidad.**
Después de conectar su nuevo reprodutor y pulsar el botón de encendido, aparecerá la pantalla de la configuración básica.

❷ **Pulse [▲ OPEN/CLOSE] para abirir la bandeja del disco, cargue el disco.**

PLAY ▶ **Inicia la reproducción**

STOP ■ **Parada**

La posición de detención se memoriza.
Función de reanudación de la reproducción
Pulse [▶] (PLAY) para reiniciar la reproducción desde esta posición.
● La posición se borra si se abre la bandeja o se pulsa [■] varias veces para visualizar "STOP" en el visor de la unidad.
● **BD-V**: En los discos BD-Video incluidos los BD-J, la función de reanudación de la reproducción no funciona.
● **CD** **MP3** **DivX** **MPEG2** : La posición se borra si apaga la unidad.

PAUSE ❚❚ **Pausa**

● Pulse [❚❚] otra vez o [▶] (PLAY) para reiniciar la reproducción.

SLOW/SEARCH
◀◀ ▶▶ **Búsqueda/Cámara lenta**

La velocidad aumenta hasta 5 pasos.
● Pulse [▶] (PLAY) para recuperar la velocidad de reproducción normal.
● Para algunos discos, la velocidad podría no cambiar.

Búsqueda
Durante la reproducción, pulse [◀◀] o [▶▶].
● **BD-V** **AVCHD** **DVD-VR** **DVD-V**: El audio se oye durante la búsqueda en avance de primer nivel.
● **DivX** **MPEG2**: El sonid no se oye durante todos los niveles de búsqueda.
● **CD** **MP3**: La velocidad está fija en un paso.

Cámara lenta
Durante la pausa, pulse [◀◀] o [▶▶].
● **BD-V** **AVCHD**:Sólo dirección en avance [▶▶].
● **DVD-VR**:Si continua durante aprox. 5 minutos, la reproducción en cámara lenta se para automáticamente.

SKIP
|◀◀ ▶▶| **Salto**

● Salta hasta el título, capítulo o pista que desee reproducir.
● Cada pulsación aumenta el número de saltos.
● **DivX**: Solo dirección hacia atrás [|◀◀].

RQT9378

Glossary

AVCHD
AVCHD is a new format (standard) for high definition video cameras that can be used to record and play high-resolution HD images.

BD-J
Some BD-Video discs contain Java applications, and these applications are called BD-J. You can enjoy various interactive features in addition to playing normal video.

BD-Live
This is a BD-Video (BD-ROM Profile 2) that supports the new functions such as Internet connection, etc. in addition to the BONUSVIEW function.

Bitstream
This is the digital form of multi-channel audio data (e.g., 5.1 channel) before it is decoded into its various channels.

BONUSVIEW (Final Standard Profile)
This is a BD-Video (BD-ROM Profile 1 version 1.1) that supports the new functions such as Picture-in-picture, Secondary Audio, etc.

Deep Color
Deep Color is a name for device that can reproduce greater color gradation (4096 steps) when connected to a TV that supports the Deep Color with HDMI cable. You can enjoy exceptionally rich, natural-looking colors, with smooth, detailed gradation and minimal color banding. [A lower color gradation (256 steps), without Deep Color, will be reproduced if connected to a TV which does not support Deep Color. The unit will automatically set appropriate output to suit the connected TV.]

DivX BD80
DivX is a popular media technology created by DivX, Inc. DivX media files contain highly compressed video with high visual quality that maintains a relatively small file size.

DNS Server
A server which acts like a telephone directory and translates Internet domain names into IP addresses.

Dolby Digital
This is a method of coding digital signals developed by Dolby Laboratories. Apart from stereo (2-channel) audio, these signals can also be multi-channel audio.

Dolby Digital Plus
Multi-channel audio and higher audio quality is made possible using Dolby Digital Plus. BD-Video supports up to 7.1 channel output.

Dolby TrueHD
Dolby TrueHD is a very high quality audio format that reproduces the studio master audio. BD-Video supports up to 7.1 channel output.

Down-mixing
This is the process of remixing the multi-channel audio found on some discs into fewer channels.

DTS (Digital Theater Systems)
This surround system is used in many movie theaters. There is good separation between the channels, so realistic sound effects are possible.

DTS-HD
DTS-HD is a high-quality, sophisticated audio format used in movie theaters. Previous DTS Digital Surround-compatible equipment can play DTS-HD as DTS Digital Surround audio. BD-Video supports up to 7.1 channel output.

DTS-HD High Resolution Audio
This is a signal format achieved by improving the previous DTS, DTS-ES and DTS96/24 formats. It is compatible with sampling frequency 96 kHz/48 kHz. BD-Video supports up to 7.1 channel output.

DTS-HD Master Audio
This is a lossless audio format and compatible with 96 kHz/7.1ch or less. In addition, faithful reproduction of the master audio is enabled using lossless audio encoding technology. BD-Video supports up to 7.1 channel output.

Dynamic range
Dynamic range is the difference between the lowest level of sound that can be heard above the noise of the equipment and the highest level of sound before distortion occurs.
Dynamic range compression means reducing the gap between the loudest and softest sounds. This means you can listen at low volumes but still hear dialog clearly.

Film and video
DVD-Video are recorded using either film or video. This unit can determine which type has been used, then uses the most suitable method of progressive output.

Film:	Recorded at 24 frames per second. (Recorded at 30 frames per second as well). Generally appropriate for motion picture films.
Video:	Recorded at 30 frames/60 fields per second. Generally appropriate for TV drama programs or animation.

Frames and fields
Frames refer to the single images that constitute the video you see on your television. Each frame consists of two fields.
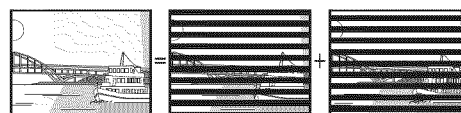
Frame   Field   Field

● A frame still shows two fields, so there may be some blurring, but picture quality is generally better.
● A field still shows less picture information so it may be rougher, but there is no blurring.

Gateway
IP address of the electronic device providing Internet access.
Usually called a router IP address. (e.g., 192.168.0.1)

HDMI (High-Definition Multimedia Interface)
HDMI is a digital interface for consumer electronic products. Unlike conventional connections, it transmits uncompressed digital video and audio signals on a single cable.

Hub
Used for connecting more than one device to the network.

IP address
A set of numbers which distinguish each device on the network when, for example, connected to the Internet. When using a PC in a LAN to access a PC or device that is not included in the LAN, the IP address is called the local IP address. (e.g., 192.168.0.10)

JPEG (Joint Photographic Experts Group)
This is a system used for compressing/decoding color still pictures. If you select JPEG as the storage system on digital cameras, etc., the data will be compressed to 1/10–1/100 of its original size. The benefit of JPEG is less deterioration in picture quality considering the degree of compression.

LAN (Local Area Network)
A group of linked devices in a company, school or home.
Indicates the boundaries of a particular network.

Local storage
This storage area is used as a destination for sub contents for playing BD-Live on BD-Video.

LPCM (Linear PCM)
These are a kind of PCM format.
These are uncompressed digital signals, similar to those found on CDs.

MPEG2 (Moving Picture Experts Group)
A standard for efficiently compressing and expanding color video. MPEG2 is a compression standard used for DVD and satellite based digital broadcasting.

MP3 (MPEG Audio Layer 3)
An audio compression method that compresses audio to approximately one tenth of its size without any significant loss of audio quality.

P4HD (Pixel Precision Progressive Processing for HD)
This is a processor which makes use of an exclusive Panasonic algorithm. Various processing is supported, including a high-level conversion of the TV scanning format from interlace to progressive and a high-level conversion of standard resolution (480i or 576i) video signal to a 1080 High Definition video signal.
Consequently, this unit is able to provide video of optimal resolution to the connected TV.

Pan&Scan/Letterbox
In general, DVD-Video are produced with the intention that they be viewed on a widescreen television (16:9 aspect ratio), so images often don't fit regular (4:3 aspect ratio) televisions. Two styles of picture, "Pan & Scan" and "Letterbox", deal with this problem.

Pan&Scan:The sides are cut off so the picture fills the screen.

Letterbox: Black bands appear at the top and bottom of the picture so the picture itself appears in an aspect ratio of 16:9.

PCM (Pulse Code Modulation)
This is one format for converting analog audio into digital audio, enabling you to enjoy digital audio with no hassle.

Progressive/Interlace
The video signal standard of NTSC has 480 interlaced (i) scan lines, whereas progressive (p) scanning uses twice the number of scan lines, and this is referred to as 480p. Using progressive output, you can enjoy watching high resolution video.

Router
Distinguishes the IP address assigned to each device, such as the PC, and relays the flow of data within the network.

Sampling frequency
Sampling is the process of converting the heights of sound wave (analog signal) samples taken at set periods into digits (digital encoding). Sampling frequency is the number of samples taken per second, so larger numbers mean more faithful reproduction of the original sound.

Subnet mask
Enables efficient network use. A set of numbers which identify which part of the IP address allocated to every device connected to the router is the network portion.

USB (Universal Serial Bus)
An interface specification to connect peripherals. Playback of MP3, JPEG or DivX recorded to a USB device by PC or other equipment, or JPEG in the Panasonic digital camera or similar connected via USB connection cable is possible with this unit.

VIERA CAST
An information service unique to Panasonic where specific Web sites can be viewed on this unit by connecting to the Internet without using a PC.

x.v.Color™
x.v.Color™ is a name for devices that are compatible with the xvYCC format, an international standard for expanded color in motion pictures, and that follow the rules for signal transmission.
You can enjoy vivid colors of wider color ranges for a more realistic picture when connected to a TV that supports the x.v.Color™ with HDMI cable.

1080i (1125i)
In one high definition image, 1080 (1125) alternating scan lines pass to create an interlaced image. Because 1080i (1125i) more than doubles current television broadcasts of 480i, the detail is much clearer and creates a more realistic and rich image.

1080p (1125p)
In one high definition image, 1080 (1125) scan lines pass at the same time to create a progressive image. Since progressive video does not alternate scan lines like interlace, there is a minimal amount of screen flicker.

24p
This is a progressive image recorded at a rate of 24 frames per second.

720p (750p)
In one high definition image, 720 (750) scan lines pass at the same time to create a progressive image. Since progressive video does not alternate scan lines like interlace, there is a minimal amount of screen flicker.

Index

-If you see this symbol-

Information on Disposal in other Countries outside the European Union

This symbol is only valid in the European Union.
If you wish to discard this product, please contact your local authorities or dealer and ask for the correct method of disposal.